

# KV-M2150D/M2151D

## RM-826

## SERVICE MANUAL

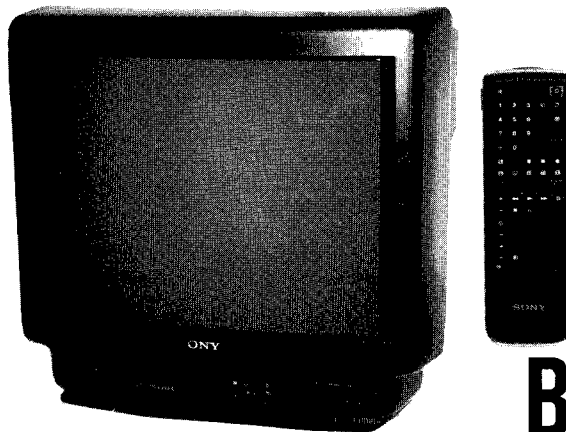
*AEP Model*

KV-M2150D

Chassis No. SCC-D85L-A

KV-M2151D

Chassis No. SCC-D85K-A



## BE-2A CHASSIS

### MODELS OF THE SAME SERIES

KV-M2150D/M2151D	KV-M1420D
KV-M2140D/M2141D	KV-M1430D/M1431D
KV-M1620D	

### SPECIFICATIONS

#### 【KV-M2150D/M2151D】

Television system B/G/H  
 Color system PAL/SECAM  
 Channel coverage VHF : E2-E12, S1-S20  
 UHF : E21-E69  
 Picture tube HI-BLACK TRINITRON  
 Approx. 55 cm (21 inches)  
 (Approx. 51cm picture measured diagonally)  
 100° degree deflection  
 Inputs Ⓓ 21-pin connector : CENELEC standard  
 RGB input  
 V<sub>GA</sub>-A Audio/Video input jacks : phono jacks  
 Ⓔ S-Video input jack  
 Outputs Headphones jack : minijack  
 21-pin connector : TV output  
 Sound output 6 W (Music)  
 Power consumption 70.5Wh (KV-M2150D)  
 73.3Wh (KV-M2151D)  
 Dimensions Approx. 510x465x490 mm (w/h/d)  
 Weight Approx. 24 kg



#### 【RM-826】

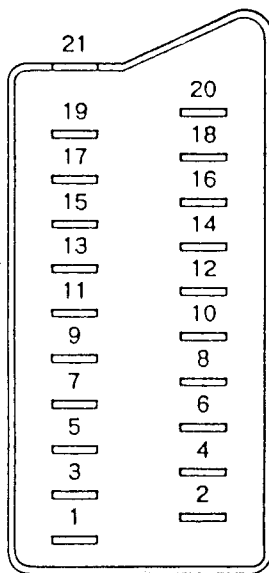
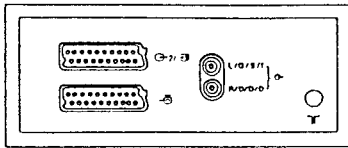
Remote control system infrared control  
 Power requirements 3V dc  
 2 batteries IEC designation  
 R6 (size AA)  
 Dimensions Approx. 75×221×23mm (w/h/d)  
 Weight Approx. 230g including batteries  
 Accessories supplied IEC designation R6 batters (2)  
 Supplied accessories RM-826 Remote Commander (1)  
 IEC designation R6 batteries (2)

Design and specifications are subject to change without notice.



TRINITRON® COLOR TV  
**SONY®**


21 pin connector (  ,  )



Pin No.	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output Impedance: Less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input Impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output Impedance: Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input Impedance: More than 10kohms*
7	○	●	Blue Input	0.7V ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V): Part mode Low state (0 – 2V): TV mode Input Impedance: More than 10kohms Input capacitance: Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	–	Red Input	0.7V ± 3dB, 75ohms, positive
	–	○	(S signal) croma Input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking Input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input Impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video Input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
	○	–	Video Input	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
20	–	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected      ● unconnected (open)

\* at 20Hz – 20kHz

4 pin connector (  )

Pin No.	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) Input	1V ± 3dB, 75ohms, positive Sync: 0.3V : 1dB
4	C (S signal) Input	0.3V ± 3dB, 75ohms, positive


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## CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

## SAFETY-RELATED COMPONENT WARNING!!


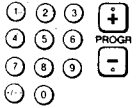
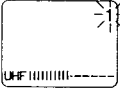

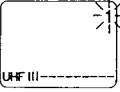

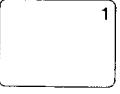
COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

# SECTION 1 GENERAL

## 1-1. PRESETTING OF CHANNELS

Before viewing the TV programmes you need to preset TV channels. There are 60 spaces available for storing these channels. TV stations broadcast their channels at certain frequencies. You must preset these channels to programme numbers on the TV. Slide open the full-function side of the Remote Commander to reveal preset buttons.




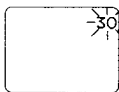



### Automatic presetting of channels

Action	Result
<b>1</b> Turn on the TV using the power switch ① on the set. <b>2</b> Press the → PRESET button.	 You are now in the preset mode. The programme number flashes.
<b>3</b> Press either the number buttons or PROGR +/- to select the programme number on which you want to preset the channel. 	 The selected programme number will be indicated.
<b>4</b> Press the ± or - button repeatedly, until the desired channel is tuned in. 	 The scale with the frequency band changes.
<b>5</b> Repeat steps 3 and 4 for all other channels.	
<b>6</b> Press the → PRESET button to store the channels. 	 All channels are now stored. The programme number stops flashing.

**Note:** in the case of two digit numbers, first press +/-, then the two numbers.


### How to skip programmes

Since you have 60 programmes at your disposal, you may want to skip vacant programme positions. This means that they are skipped when you press the PROGR +/- buttons.

Action	Result
<b>1</b> Press the → PRESET button. 	 You are now in preset mode, the programme position flashes.
<b>2</b> Use PROGR + or - to select the programme position you want to skip. 	 The selected programme position appears.
<b>3</b> Press Coo. 	
<b>4</b> Repeat steps 2 and 3 to skip other programmes.	
<b>5</b> Press the → PRESET button. 	 The programme position is now skipped. You are back in TV mode.

### How to fine tune a channel manually

If the reception of a stored channel is not satisfactory, you can fine tune the channel manually.

Action	Result
Press the ± or - button until the reception is good. 	The channel is now fine tuned.








**Note:** By pressing the respective programme number the automatic fine tuning will be restored.



## 1-2. BASIC TV OPERATION




This section introduces you to the basic control functions which are available on the TV set and on the simple side of the Remote Commander.

### How to turn the TV on and off

Action		Result
<b>Turning on</b> Press the power switch  on the set.		The TV will turn on. <b>Note:</b> If the screen remains blank, the TV may be in standby mode. In this case, press  .
<b>Turning off</b>		
<b>A Temporarily</b> Press  .		The TV is now in standby mode. Press  or any number button to return to TV mode.
<b>B Completely</b> Press the power switch  .		The TV will turn off.




### How to select programmes



Before selecting programmes make sure that you have preset channels.

Action		Result
Press PROGR +/- or the respective number button. <b>Note:</b> In the case of two digit numbers first press +/- and then the two number buttons.	  	The selected programme is displayed.



**On the set:**  
Press the + or - button for programme selection.



### How to adjust the volume

Action		Result
Press  or  .		The volume markers will appear and the volume is adjusted accordingly.

**On the set:**  
Press  until the  symbol is displayed, then adjust with the +/- buttons.

### How to use additional functions

**Viewing of Teletext: (only for KV-M2151D)**  
Press . To return to TV mode, press .







**Viewing of the video input:**  
Press . To return to TV mode, press .


## 1-3. ADVANCED TV OPERATION

This section introduces you to the advanced control functions which are available on the full function side of the Remote Commander.

### How to adjust the picture


Although the picture has been adjusted at the factory, you might want to adjust it to your own taste. For modifications please follow the steps:

Action		Result
<b>1</b> Press button  repeatedly, until the desired item is displayed (  contrast,  colour intensity,  brightness)		The symbol and the level indicator for the selected item is displayed.
<b>2</b> Press button + or -.	 	The picture item is adjusted.







**On the set:**  
Press button  repeatedly in order to select the desired item, then adjust with button + or -.

**To return to factory set levels:**  
Press the --- button.

### How to use the Sleep Timer

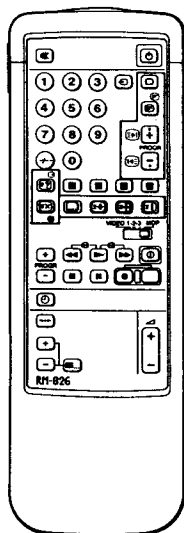
You can select a time after which the set goes automatically into standby mode. Press button  repeatedly until the desired time is displayed on the screen (30, 60, 90 minutes or 0 for cancelling the request).

### Other functions

How to	Action	The resume normal picture/sound
Display the programme number.	Press  .	Press  again.
Mute the sound.	Press  .	Press  again.
Request the time (only if teletext is available).	Press  .	Press  again.

## 1-4. TELETEXT OPERATION (KV-M2151D ONLY)

TV stations broadcast teletext programmes via the TV channels. To receive teletext programmes, use the buttons indicated in green on the full function side of the Remote Commander. With the simple side of the Remote Commander only the basic operation is possible.



### How to view the teletext

Action	Result
<b>1</b> Select the channel which carries the teletext service you wish to view.	The channel changes on the screen.
<b>2</b> Press .	The teletext service appears. If the teletext signal is not broadcast <b>p100</b> is displayed.
<b>3</b> Input three digits for the page number using the number buttons. <b>Note</b> If you make a mistake, type in any three digits, then re-enter the correct page number.	The numbers are entered on the screen. The requested page will appear in a few seconds.
<b>To return to the TV mode:</b> Press .  <b>To change the teletext channels:</b> First press  to return to TV mode, then repeat steps 1 to 3.	

#### Note

If the signal of the TV channel is weak, teletext errors may often occur.  
The has no function on this set.

### How to use the Advanced Features of Teletext

How	Action	Result (on-screen display)
Request the index page.	Press .	The index page appears.
Access the next or preceding page.	Press  (PAGE +) or  (PAGE -).	The next or preceding page appears.

How to	Action	Result
Superimpose the teletext display on the TV programme	Press  once if you are in text mode or press  twice if in TV mode To return to the normal teletext display press  again.	The teletext displays are superimposed on the TV programmes.
Prevent a teletext page from being updated or changed.	Press  (HOLD)  To resume normal teletext reception, press  (TEXT/MIX).	The HOLD symbol  appears on the screen and the chosen sub-page is held until you cancel.
Enlarge the teletext display.	Press  once to enlarge the upper half. Press twice to enlarge the lower half.  Press again to restore the normal display.	The upper half is enlarged.
Revealed concealed information (e.g. answers to a quiz).	Press  (REVEAL)  Press again to conceal the information.	The information is revealed.
Watch the TV programme while waiting for a requested page to be displayed.	<b>1.</b> Request the new page.  <b>2.</b> Press  (TEXT CL).  <b>3.</b> When the requested page has been captured, the page number remains and the other data disappears.  <b>4.</b> Press  to view this page.	The numbers are entered.  The TV programme is displayed and the requested page number and other teletext data appear at the top of the screen.  
		The requested page is displayed.

Some of the features may not be available depending on the Teletext service.

### How to use the FASTEXT feature

FASTEXT feature allows you to access pages quickly with one key operation. When a FASTEXT page is broadcast, a colour coded menu appears at the bottom of the screen. Each coloured prompt corresponds to the coloured buttons on either side of your Remote Commander.

#### Operation

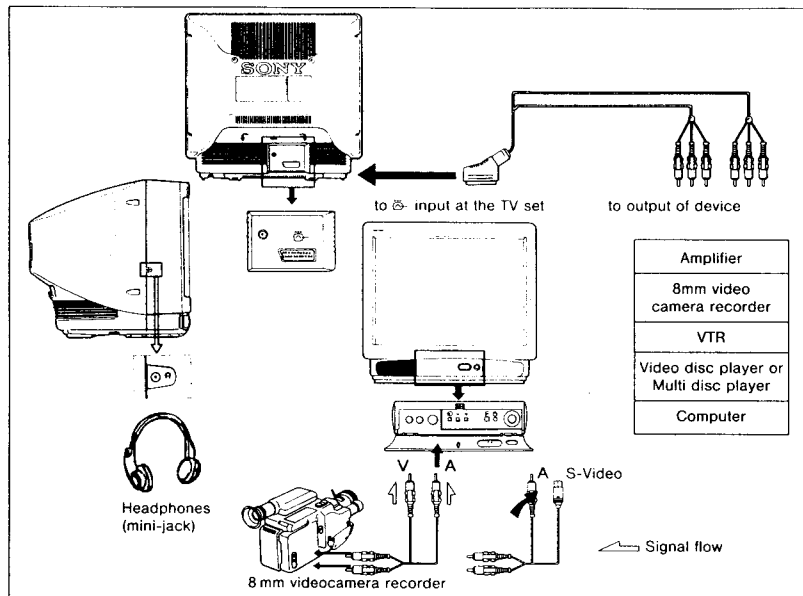
Action	Result
Press on the coloured buttons which corresponds to the coloured prompt on the teletext.	The selected teletext page appears.

#### Note

Correct FASTEXT operation depends on the necessary signals sent from the TV station.

## 1-5. OPTIONAL CONNECTIONS/OPERATIONS

### How to connect additional Audio/video equipment



### How to view the Video input signal

Press button in order to select the desired input mode ( for Audio/video signals from 21-pin EURO connector or from the video/audio connectors V A on the front; for S-video signals from the S-video (4-pin DIN) connectors on the front). Press button to return to TV mode.

#### On the set:

Press button once, the symbols , , will appear on the screen, then press the + button to select the desired video input mode. Press and + buttons again to return to TV-mode.

#### S-video input (Y/C input)

Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance). This TV is equipped with one S-video input jack through which these separated signals can be input directly.

#### Notes

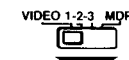
- When you have Audio/video equipment connected to both the A/V connectors and the 21-pin terminal, make sure that both are not switched on at the same time, otherwise the picture could be incomplete.
- In case of sound and picture distortions move the VTR away from the TV set.

## 1-6. ADDITIONAL REMOTE COMMANDER OPERATION

### How to Control Other Sony Video Equipment

By switching the VIDEO 1/2/3, MDP selector, you can operate most Sony video equipment (Beta VTR, 8mm VTR, VHS VTR, and video disc player).

- 1 Set VIDEO 1/2/3, MDP selector according to the desired video equipment.  
 VIDEO 1: Beta or ED Beta VTR  
 VIDEO 2: 8mm VTR  
 VIDEO 3: VHS VTR  
 MDP: Video disc player



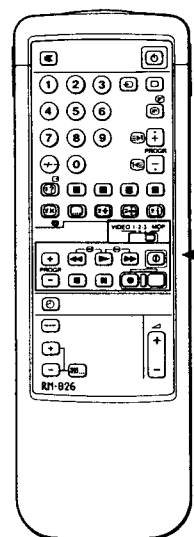
- 2 Use the buttons in the indicated area to operate video equipment.

#### Note

When you use button, be sure to press this button and the one on the right simultaneously.

#### Notes

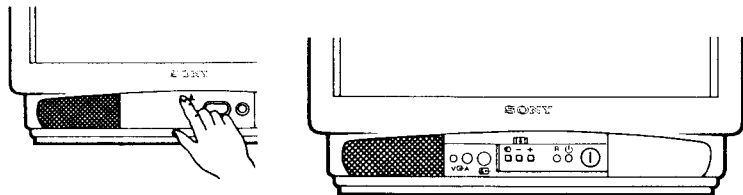
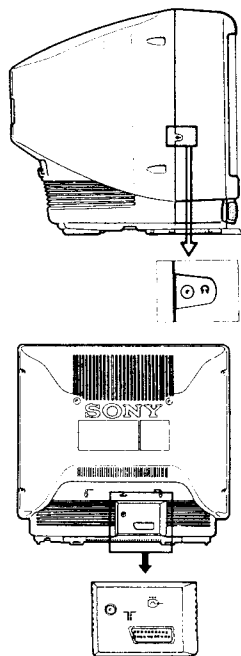
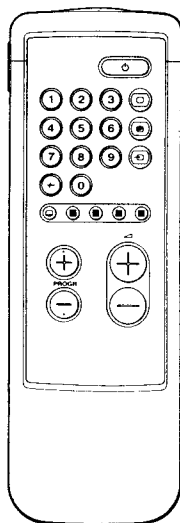
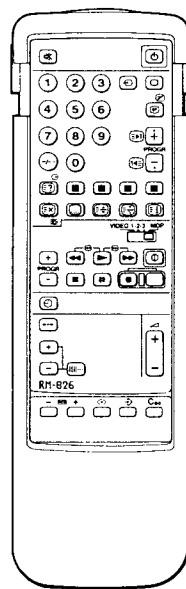
- If your video equipment is furnished with COMMAND MODE selector, set the selector to the same position as the VIDEO 1/2/3, MDP selector on the supplied Remote Commander.
- If the equipment does not have a certain function, the corresponding button on the Remote Commander will not work.



Buttons to operate other Sony Video equipment

## 1-7. ADDITIONAL INFORMATION

### Parts Identification

**A**

**B**

**C**

**D**


This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information.

<b>A TV set – Front</b>	
Sign	Name
⏻	Main power switch
⏻	Standby indicator
V A S-Video	Input jacks (Video/Audio/S-Video)
⏻	Function selector (Programme/volume/input)
- / +	Adjustment buttons for function selector













<b>B TV set – Rear</b>	
Sign	Name
🎧	Headphones jack
21-pin Euro-AV	21-pin Euro-AV connector (RGB/video input, TV output)
⏻	Aerial terminal (IEC type)

<b>C Remote Commander – simple side</b>	
Sign	Name
⏻	Input mode selector
⏻	Teletext button
⏻	Fasttext buttons
⏻	TV mode selector
⏻	Standby button
1,2,3,4,5, 6,7,8,9, and 0	Number buttons
- / -	Double-digit entering button
⏻	Volume control buttons
PROGR +/-	Programme selector

<b>D Remote Commander – full function side</b>	
Sign	Name
⏻	Mute on/off button
⏻	Standby button
1,2,3,4,5, 6,7,8,9, and 0	Number buttons
⏻	Input mode selector
⏻	TV power on/TV mode selector button
⏻	Teletext button
- / -	Double-digit entering button
⏻	Request time display
⏻	Teletext operation buttons
⏻	Fasttext buttons
⏻	On-screen display button
⏻	Sleep timer
⏻	Picture adjustment reset button
⏻ +/-	Volume control
PROGR +/-	Programme selector
⏻ +/-	Picture controls
VIDEO 1/2/3, MDP	Video equipment selector
⏻	Video equipment operation buttons
⏻	Programme number clear button
⏻	Channel preset/store button
- ⏻ +	Tuning buttons

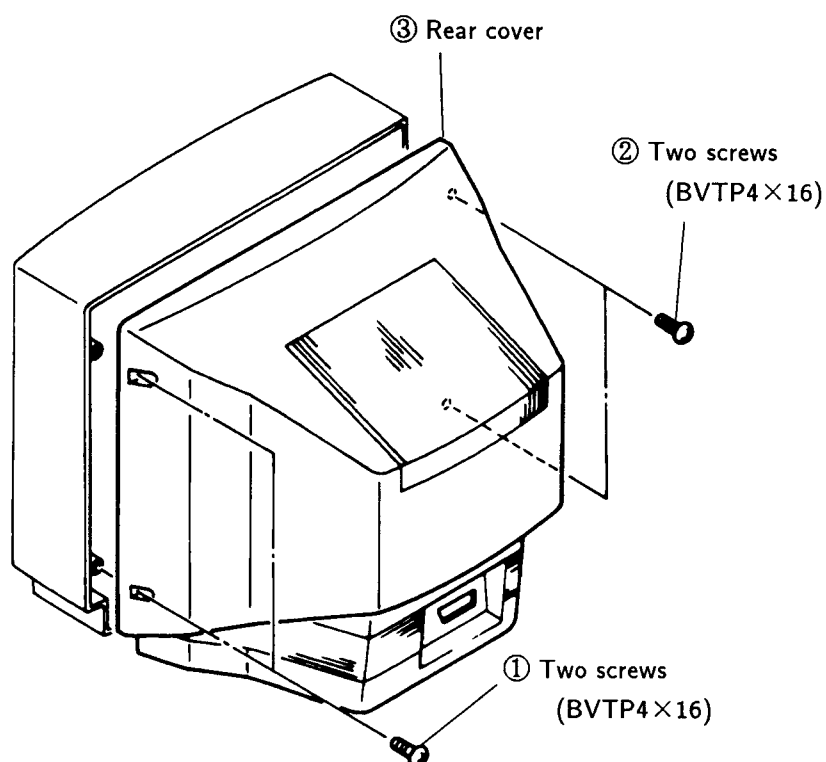
## Troubleshooting

Here are some simple solutions to the problems which may affect the picture and sound.

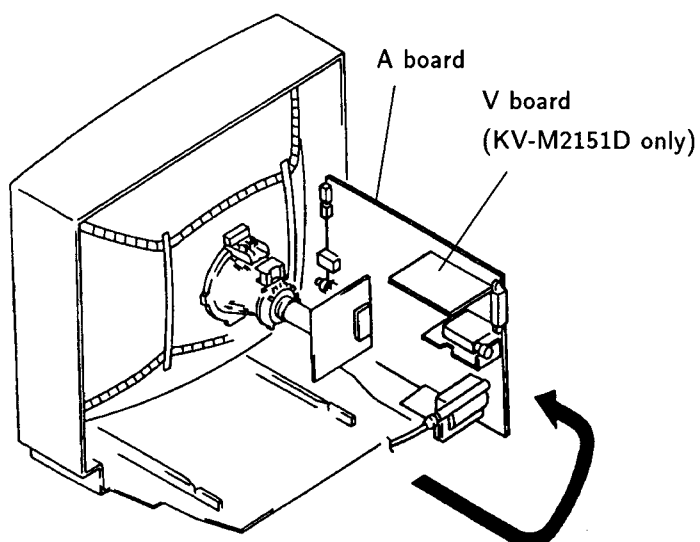
Problem	Checking and solution
No picture (screen not lit), no sound	<ul style="list-style-type: none"><li>• Connect the set to a working outlet.</li><li>• Press the power switch .</li><li>• If the standby indicator shines red, press the TV button on the Commander .</li><li>• Check the aerial connection.</li></ul>
Poor or no picture (screen not lit), but sound good	<ul style="list-style-type: none"><li>• Adjust , , and  by pressing the + or - button (after selecting with the  button).</li></ul>
Good picture but no sound	<ul style="list-style-type: none"><li>• Press .</li><li>• If  is displayed on the screen, press  on the Remote Commander.</li></ul>
No colour for colour programmes	<ul style="list-style-type: none"><li>• Adjust  with the + button after selecting with the  button.</li><li>• Press .</li></ul>
Snow and noise	<ul style="list-style-type: none"><li>• Check the aerial connections.</li></ul>

## SECTION 2 DISASSEMBLY

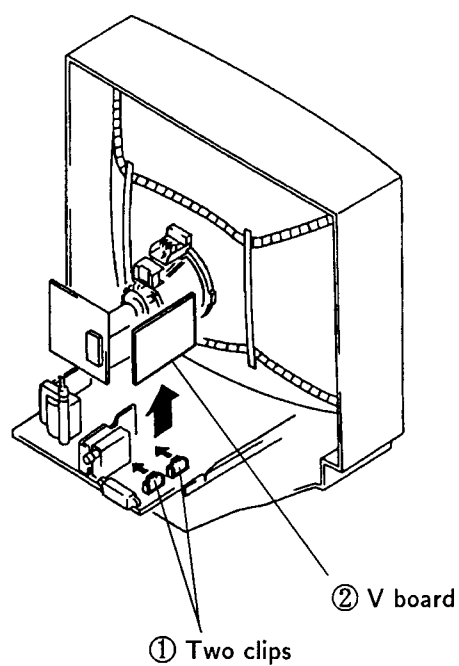
### 2-1. REAR COVER REMOVAL



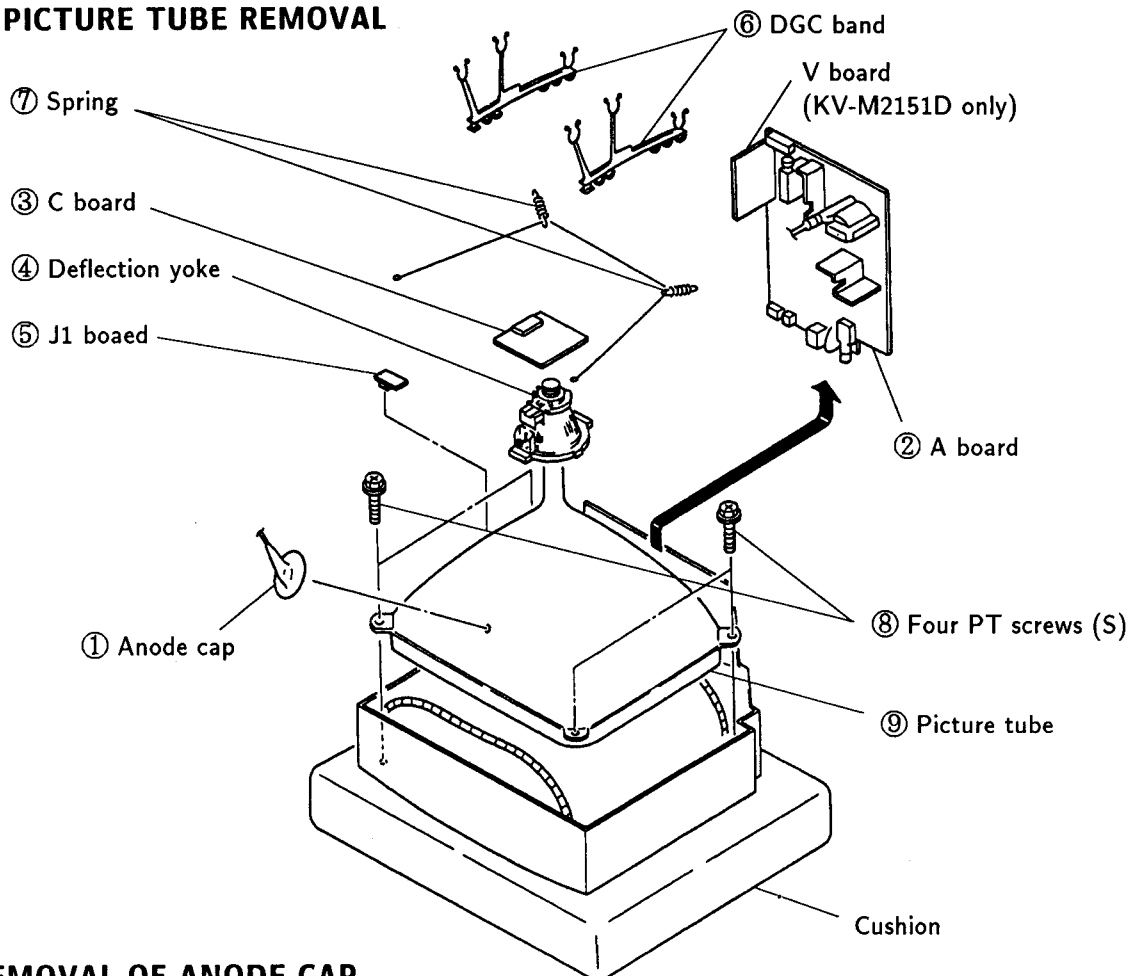
### 2-2. SERVICE POSITION



### 2-3. V BOARD REMOVAL (KV-M2151D only)



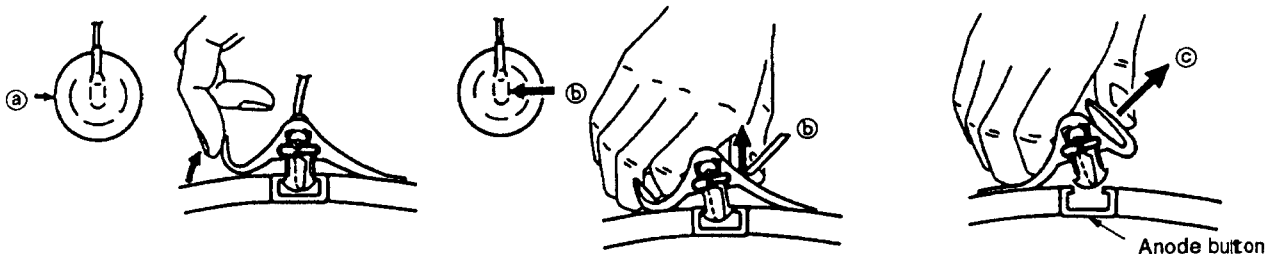
## 2-4. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

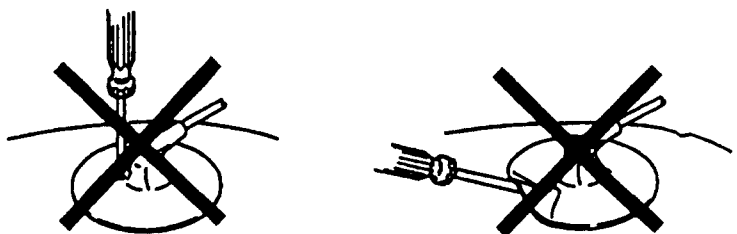
NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

### • REMOVING PROCEDURES



### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.



## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
  - These adjustments should be performed with rated power supply voltage unless otherwise noted.
- The controls and switch below should be set as follows unless otherwise noted :

● CONTRAST control..... 80%(or Normal by commander)

⚙ BRIGHTNESS control..... 50%

Perform the adjustments in order as follows:

#### Preparation:

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser..

#### 3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.
 

CONTRAST      }  
 BRIGHTNESS    } normal
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly.  
(Fig.3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and green confirm the condition.
6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

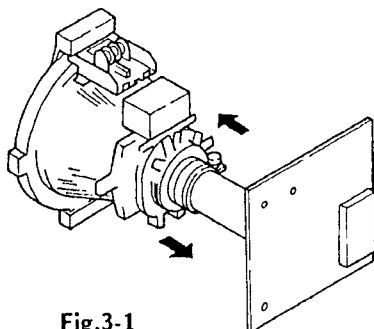


Fig.3-1

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

**Note:** Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

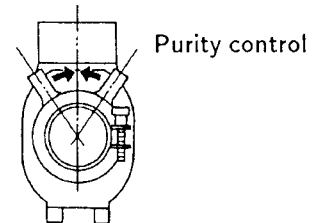


Fig.3-2

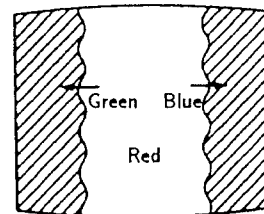


Fig.3-3

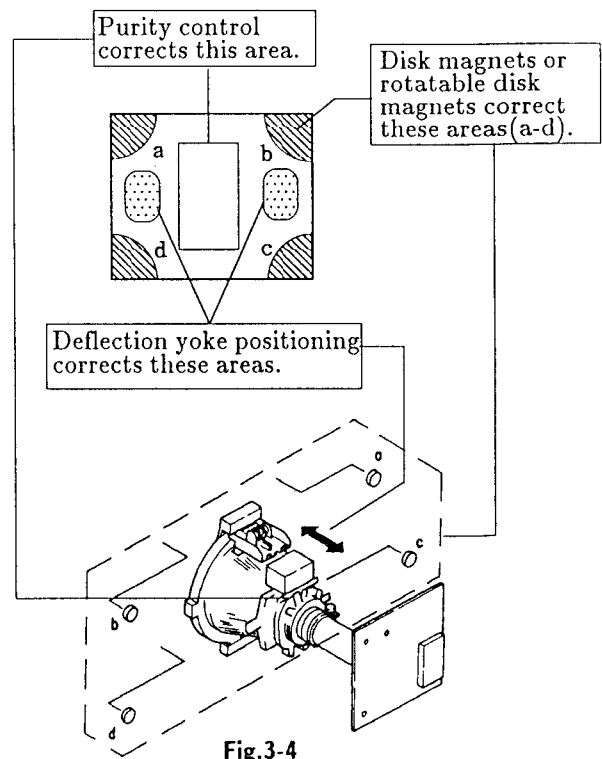


Fig.3-4

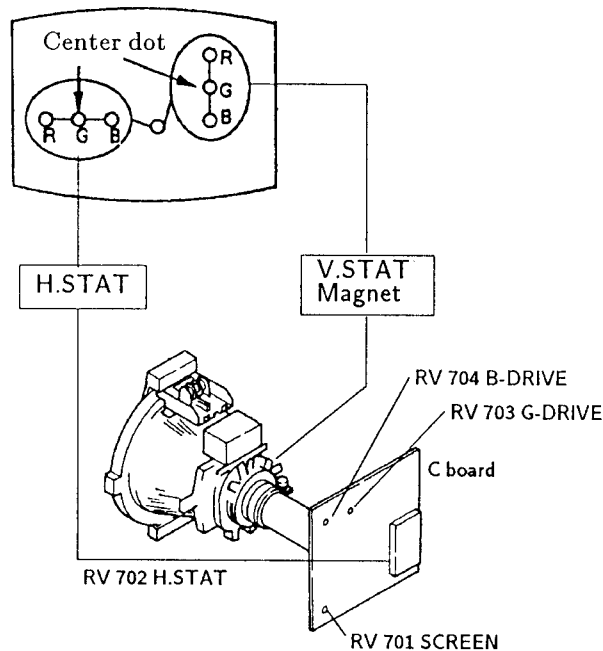


## 3-2. CONVERGENCE

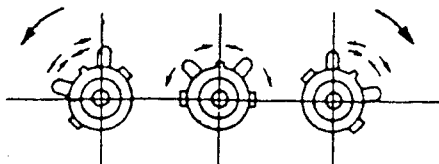
### Preparation:

- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

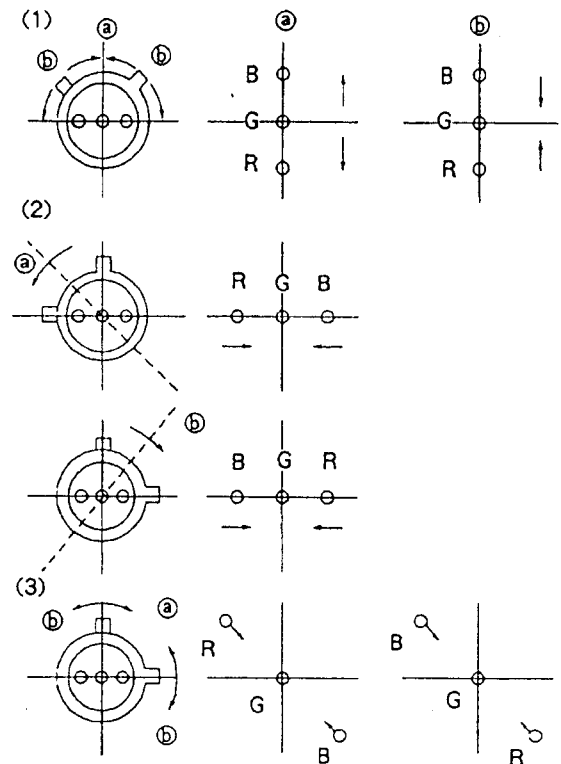
### (1) Horizontal and Vertical Static Convergence



1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen.(Horizontal movement)
  2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
  3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4. When the V.STAT magnet is moved in the direction of arrow (a) and (b), red, green and blue dots move as shown below.

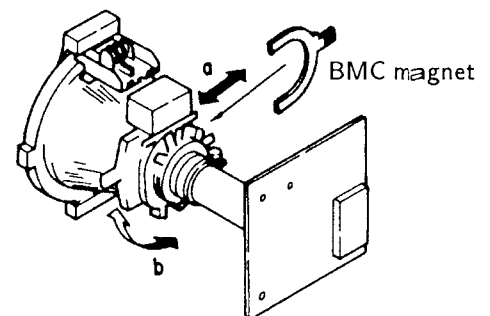


If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.



## (2) Dynamic Convergence Adjustment

### Preparation:

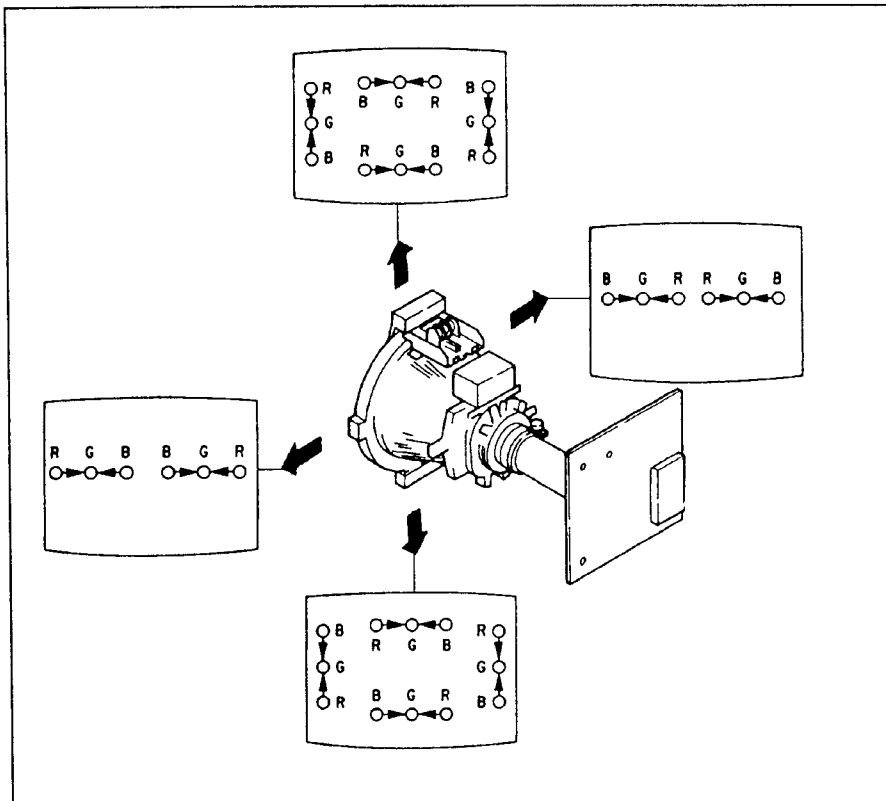
● Before starting perform Horizontal and Vertical static convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.

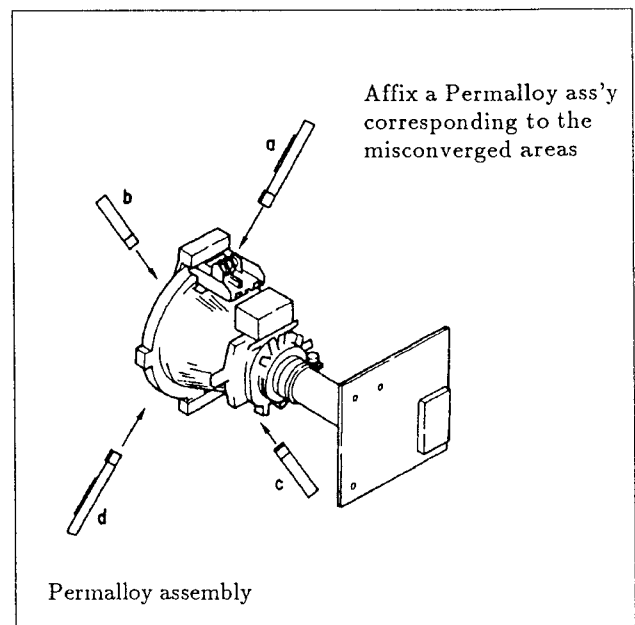
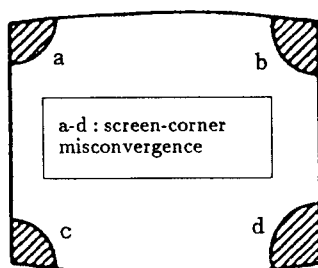
3. Move the deflection yoke for best convergence as shown below.

4. Tighten the deflection yoke screw.

5. Install the deflection yoke spacers.



## (3) Screen-corner Convergence

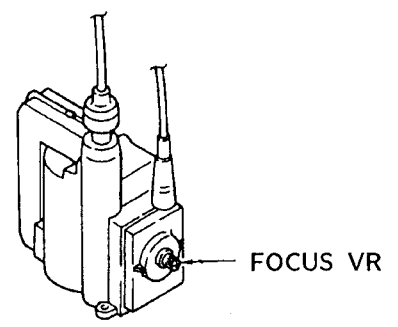


## SECTION 4

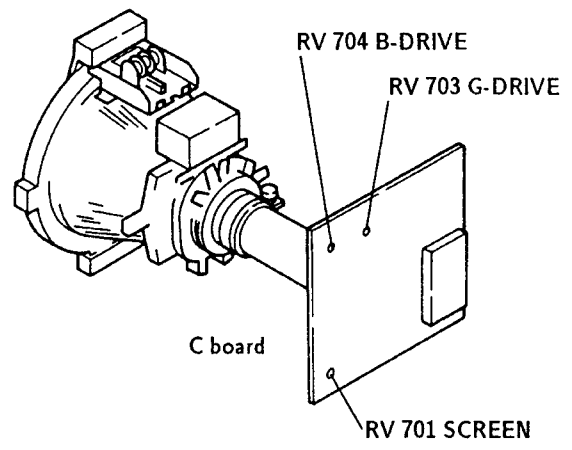
### CIRCUIT ADJUSTMENTS

#### 3-3. FOCUS

Adjust FOCUS so that the whole screen is in best focus.



#### 3-4. SCREEN (G 2) and WHITE BALANCE



##### Screen (G 2) Setting

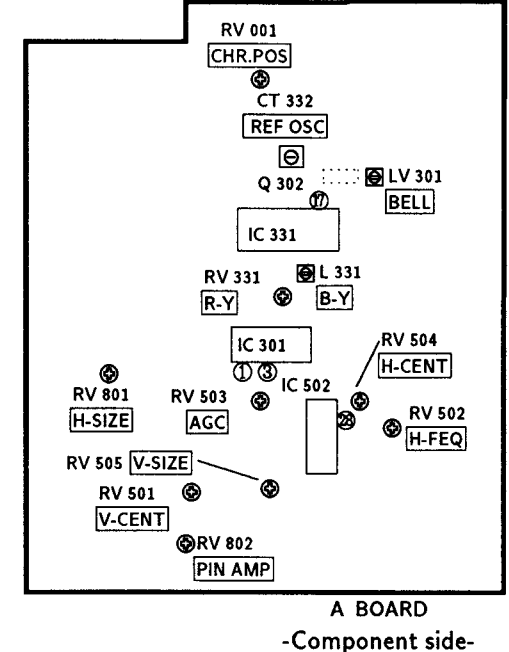
1. Input dot signal from the pattern generator.
2. Set the picture BRIGHTNESS control to minimum level.
3. Apply 170 V DC to the cathodes of R,G and B from an external power source.
4. While watching the picture, adjust the G2 control RV701 (SCREEN) immediately before fly-back line disappears.

##### White Balance Adjustment

1. Input all-white signal from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the following using RV 704 (B DRIVE) and RV 703 (G DRIVE)

In the following adjustments, the CONTRAST, COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

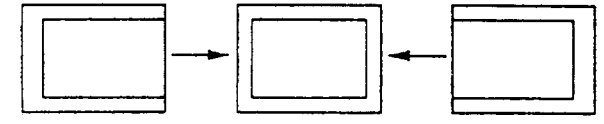
#### 4-1. A BOARD ADJUSTMENTS



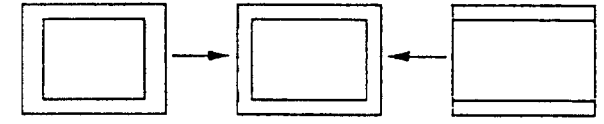
##### TU AGC Adjustment (RV 503)

1. Tune in air signal.
2. Adjust AGC VR (RV 503) so that snow-noise and cross-modulation just disappear from the picture.

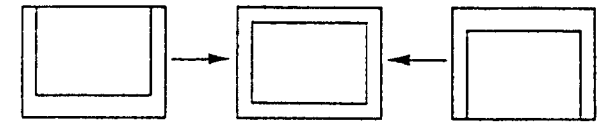
##### RV 504 H.CENT (HORIZONTAL CENTER)



##### RV 801 H.SIZE (HORIZONTAL SIZE)



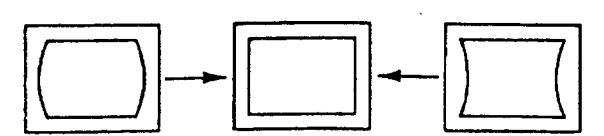
##### RV 501 V.CENT (VERTICAL CENTER)



##### RV 505 V.SIZE (VERTICAL SIZE)

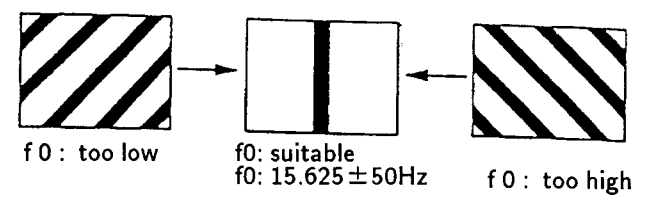


##### RV 802 PIN AMP (PINCUSHION AMPLIFIER)



##### H.FREQ Adjustment (RV 502)

1. Input a PAL COLOR BAR signal, then connect an electrolytic capacitor (100  $\mu$ /16 V) between pin 28 and GND of IC 502.
2. Adjust RV 502 (H.FREQ) to stop scrolling of the picture in the horizontal direction.
3. After adjustment, remove the electrolytic capacitor.

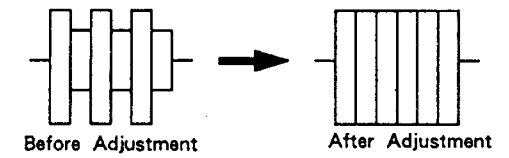


##### REF OSC 8.8 MHz Adjustment (CT 332)

1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin 17 of IC 331 and ground.
3. Adjust CT 332 to obtain color synchronization.
4. Remove the jumper wire from IC 331.

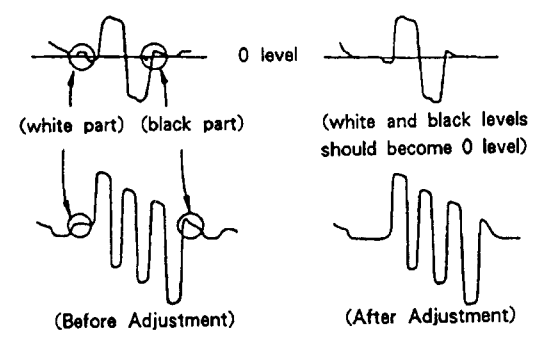
##### BELL FILTER Adjustment (LV 301)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to the Q 302 emitter.
3. Adjust LV 301 so that waveform becomes flat.



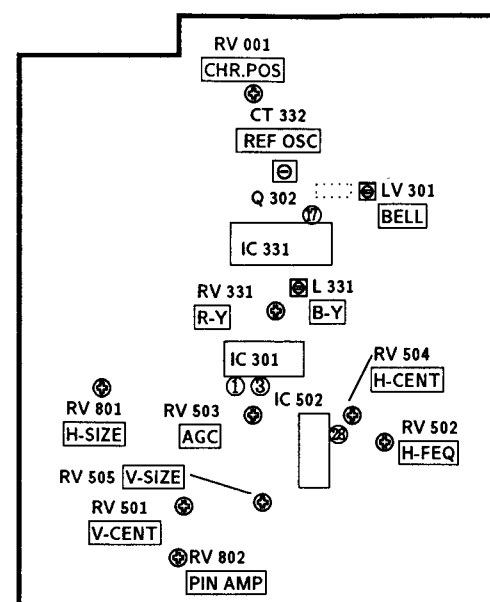
##### SECAM DISCRI Adjustment (RV 331 R-Y L 331 B-Y)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to pin 1 of IC 301.
3. Adjust RV 331(R-Y) so that white and black parts of the waveform of pin 1 becomes 0 level.
4. Connect an oscilloscope to pin 3 of IC 301.
5. Adjust L 331(B-Y) so that white and black parts of the waveform of pin 3 becomes 0 level.



## SECTION 4 CIRCUIT ADJUSTMENTS

### 4-1. A BOARD ADJUSTMENTS

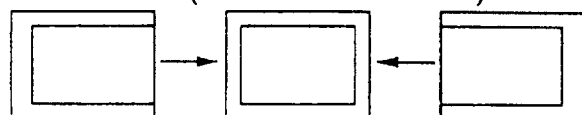


A BOARD  
-Component side-

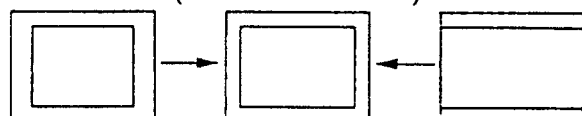
#### TU AGC Adjustment (RV 503)

1. Tune in air signal.
2. Adjust AGC VR (RV 503) so that snow-noise and cross-modulation just disappear from the picture.

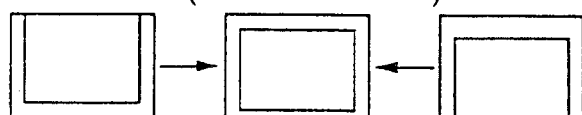
#### RV 504 H.CENT (HORIZONTAL CENTER)



#### RV 801 H.SIZE (HORIZONTAL SIZE)



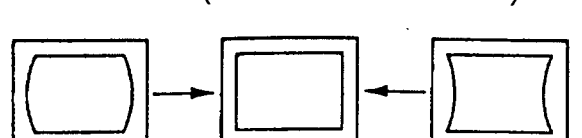
#### RV 501 V.CENT (VERTICAL CENTER)



#### RV 505 V.SIZE (VERTICAL SIZE)

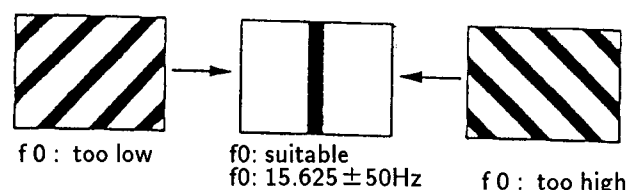


#### RV 802 PIN AMP (PINCUSHION AMPLIFIER)



#### H.FREQ Adjustment (RV 502)

1. Input a PAL COLOR BAR signal, then connect an electrolytic capacitor (100  $\mu$ /16 V) between pin 28 and GND of IC 502.
2. Adjust RV 502 (H.FREQ) to stop scrolling of the picture in the horizontal direction.
3. After adjustment, remove the electrolytic capacitor.

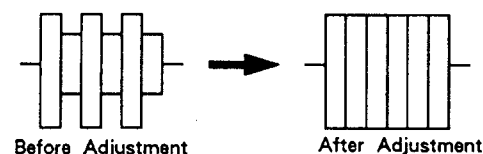


#### REF OSC 8.8 MHz Adjustment (CT 332)

1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin 17 of IC 331 and ground.
3. Adjust CT 332 to obtain color synchronization.
4. Remove the jumper wire from IC 331.

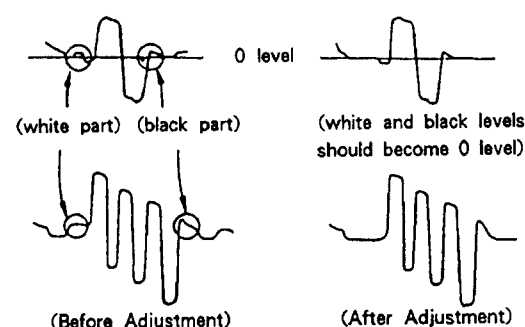
#### BELL FILTER Adjustment (LV 301)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to the Q 302 emitter.
3. Adjust LV 301 so that waveform becomes flat.



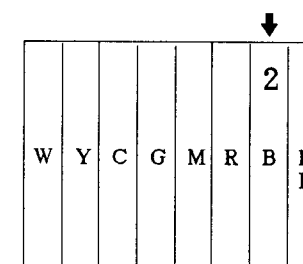
#### SECAM DISCRI Adjustment (RV 331 R-Y L 331 B-Y)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to pin 1 of IC 301.
3. Adjust RV 331(R-Y) so that white and black parts of the waveform of pin 1 becomes 0 level.
4. Connect an oscilloscope to pin 3 of IC 301.
5. Adjust L 331(B-Y) so that white and black parts of the waveform of pin 3 becomes 0 level.

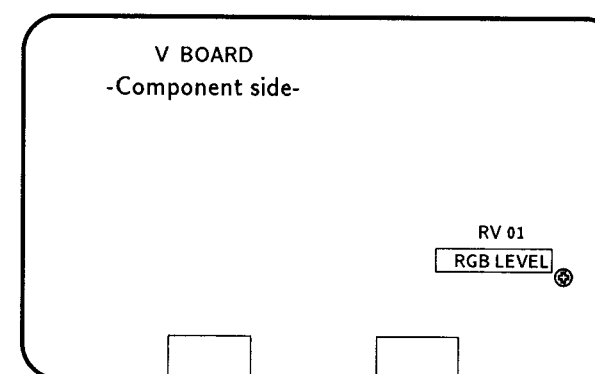


#### CHARACTER POSITION Adjustment (RV 001)

1. Input PAL COLOR BAR pattern.
2. Adjust RV 001 to position the character display at the point indicated by the arrow below.



### 4-2. V BOARD ADJUSTMENT (KV-M2151D only)



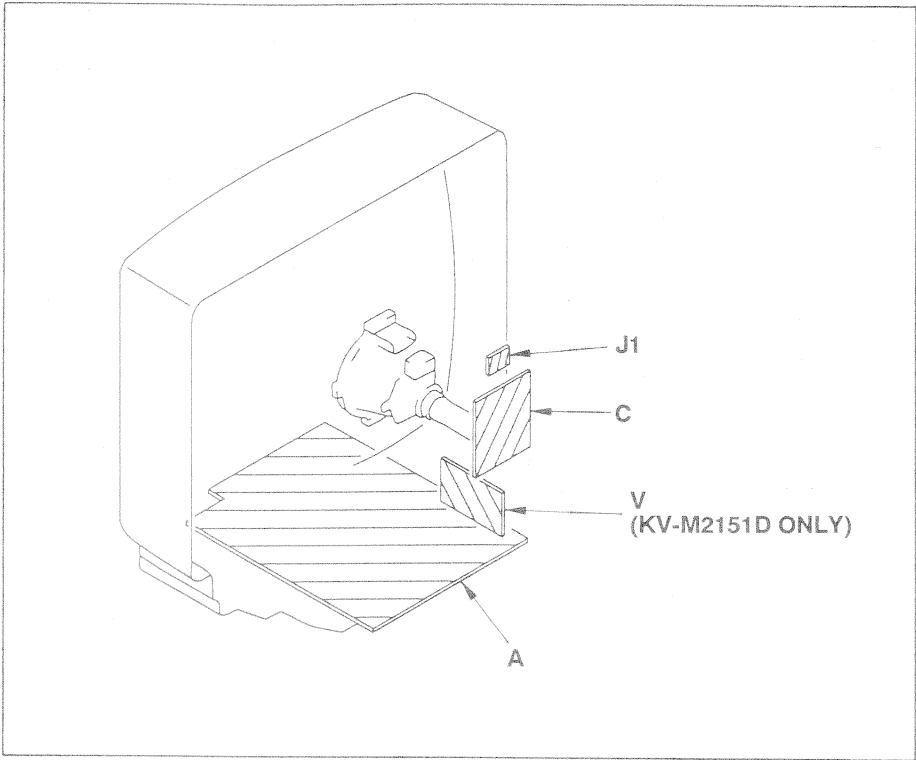
#### RGB LEVEL Adjustment (RV 01)

1. Set PICTURE to maximum.
2. Adjust RV01 till the RGB output becomes maximum.

SECTION 5  
DIAGRAMS

A SYSTEM  
H/V OUT

5-1. CIRCUIT BOARDS LOCATION



5-2. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

- Note:
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytic and tantalums.
  - All resistors are in ohms.  $\text{k}\Omega = 1000\Omega$ ,  $\text{M}\Omega = 1000\text{K}\Omega$
  - Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
Rating electrical power  $\frac{1}{4}$  W

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- : no mounted.

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Reference information		
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: *	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a color-bar signal input. no mark : with PAL color-bar signal received. ( ) : with SECAM color-bar signal received.
- Readings are taken with a  $10\text{M}\Omega$  digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

DIODE		DIODE		TRANSISTOR	
0002	E-10	01301	B-10	0305	D-6
0004	C-9	01302	B-10	0307	D-6
0007	B-8	01303	B-10	0310	A-3
0008	D-10	01304	A-10	0311	A-3
0009	B-8	01305	A-10	0401	B-1
0011	E-8	01306	B-10	0457	D-1
0020	B-8	01307	B-10	0504	C-3
0110	C-5			0505	B-3
0301	C-6			0601	G-5
0302	A-2			0801	F-4
0303	B-6			0802	H-3
0305	A-2			0803	F-3
0306	D-6			01301	B-9
0313	A-3			01302	B-10
0321	C-5			01303	B-10
0324	A-7			01304	A-10
0333	D-7			01305	A-10
0334	D-6			01306	B-10
0402	A-1				
0403	B-1				
0404	B-1				
0405	A-1				
0406	C-1				
0411	A-1				
0417	D-1				
0418	A-4				
0426	C-1				
0427	C-1				
0450	B-5				
0501	D-3				
0503	E-4				
0504	G-2				
0519	C-8				
0601	F-7				
0602	F-6				
0603	F-5				
0604	E-4				
0605	E-6				
0606	D-5				
0607	G-5				
0608	H-5				
0609	G-5				
0610	G-5				
0611	F-4				
0801	G-3				
0802	H-4				
0803	G-4				
0805	G-1				
0806	F-1				
0807	F-3				
0808	E-3				
0810	E-1				
0811	E-1				
0820	F-4				

IC

IC001	C-9
IC002	D-9
IC003	D-10
IC004	E-9
IC005	B-8
IC102	B-5
IC201	F-8
IC301	D-5
IC302	D-7
IC331	C-7
IC501	D-2
IC502	C-4
IC601	G-5
IC801	F-3
IC802	E-4

TRANSISTOR

Q001	D-8
Q003	C-9
Q004	D-10
Q005	B-8
Q006	C-8
Q007	B-4
Q015	D-3
Q016	D-10
Q017	E-9
Q019	D-10
Q020	D-8
Q104	C-1
Q106	A-2
Q107	A-2
Q112	A-7
Q114	D-5
Q115	A-6
Q123	A-2
Q141	C-3
Q302	C-7
Q303	C-7
Q304	B-6

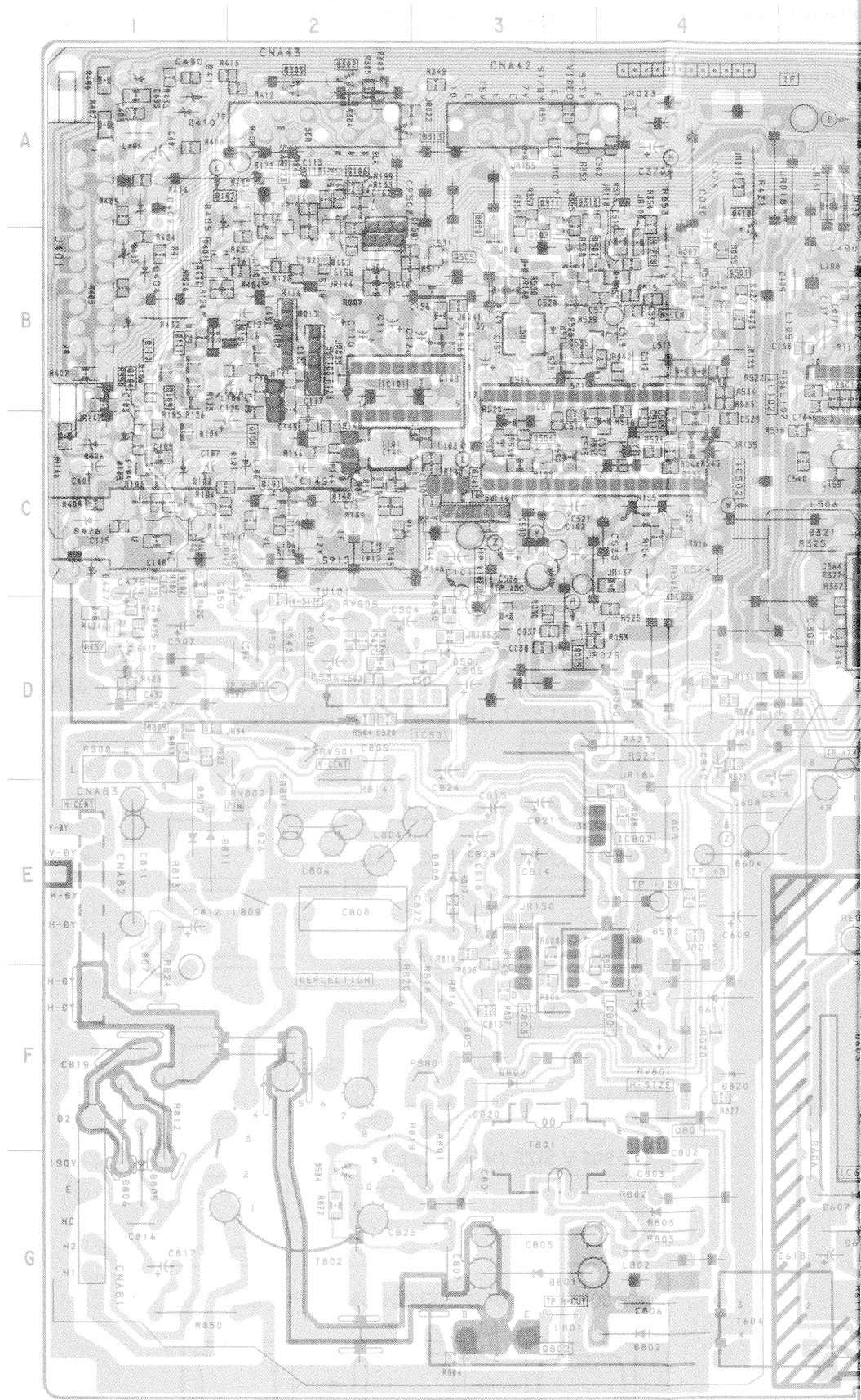
VARIABLE  
RESISTOR

RV001	D-9
RV331	D-6
RV501	D-2
RV502	B-4
RV503	C-4
RV504	D-4
RV505	D-2
RV001	F-4

TRIMMER

CT332	C-7
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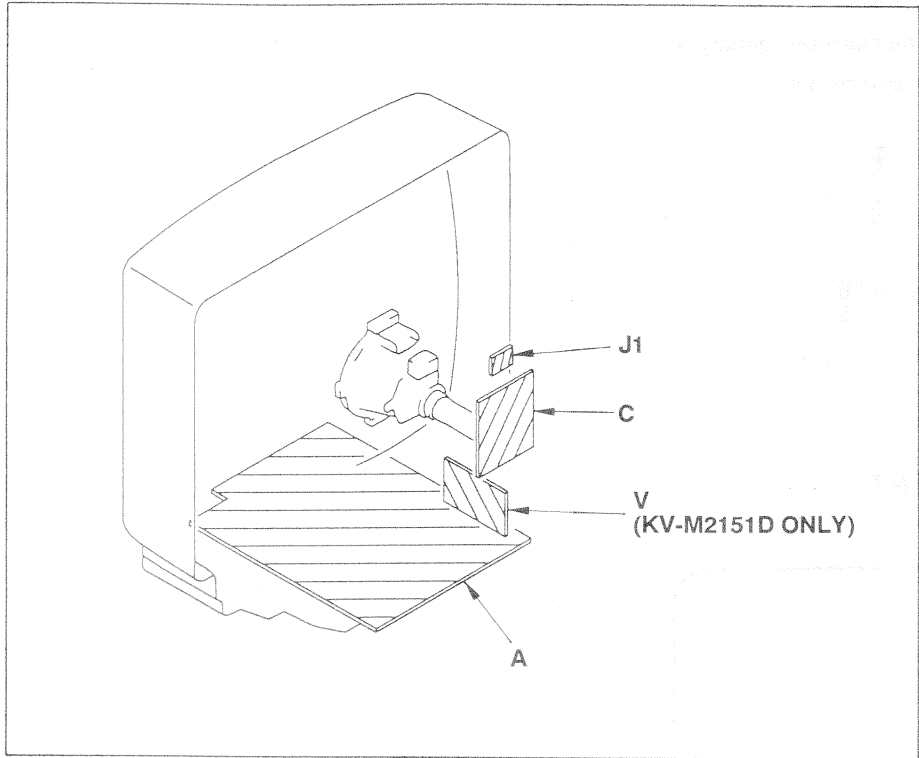
- A Board -





SECTION 5  
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

- Note:
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytic and tantalums.
  - All resistors are in ohms.  $\text{k}\Omega = 1000\Omega$ ,  $\text{M}\Omega = 1000\text{K}\Omega$
  - Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
Rating electrical power  $\frac{1}{4}$  W

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- : no mounted.

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

- Reference information
- RESISTOR : RN METAL FILM  
: RC SOLID  
: FPRD NONFLAMMABLE CARBON  
: FUSE NONFLAMMABLE FUSIBLE  
: RS NONFLAMMABLE METAL OXIDE  
: RB NONFLAMMABLE CEMENT  
: RW NONFLAMMABLE WIREWOUND  
: \* ADJUSTMENT RESISTOR
- COIL : LF-8L MICRO INDUCTOR
- CAPACITOR : TA TANTALUM  
: PS STYROL  
: PP POLYPROPYLENE  
: PT MYLAR  
: MPS METALIZED POLYESTER  
: MPP METALIZED POLYPROPYLENE  
: ALB BIPOLAR  
: ALT HIGH TEMPERATURE  
: ALR HIGH RIPPLE
- Readings are taken with a color-bar signal input.  
no mark : with PAL color-bar signal received.  
( ) : with SECAM color-bar signal received.
  - Readings are taken with a 10M $\Omega$  digital multimeter.
  - Voltage are dc with respect to ground unless otherwise noted.
  - Voltage variations may be noted due to normal production tolerances.
  - All voltages are in V.
  - Circled numbers are waveform references.
  - : B+ bus.
  - : signal path. (RF)

- A Board -

DIODE		DIODE		TRANSISTOR	
0002	E-10	01301	B-10	0305	D-6
0004	C-9	01302	B-10	0307	D-6
0007	D-8	01303	B-10	0310	A-3
0008	D-10	01304	A-10	0311	A-3
0009	B-8	01305	A-10	0401	B-1
0011	E-8	01306	B-10	0457	D-1
0020	B-8	01307	B-10	0504	C-3
0110	C-5			0505	D-3
0301	C-6			0601	G-5
0302	A-2			0801	F-4
0303	B-6			0802	H-3
0305	A-2			0803	F-3
0306	D-6			01301	B-9
0313	A-3			01302	D-10
0321	C-5			01303	B-10
0324	A-7			01304	A-10
0333	D-7			01305	A-10
0334	D-6			01306	D-10
0402	A-1				
0403	B-1				
0404	B-1				
0405	A-1				
0406	C-1				
0411	A-1				
0417	D-1				
0418	A-4				
0426	C-1				
0427	C-1				
0450	B-5				
0501	D-3				
0503	E-4				
0504	G-2				
0519	C-8				
0601	F-7				
0602	F-6				
0603	F-5				
0604	E-4				
0605	E-6				
0606	D-5				
0607	G-5				
0608	H-5				
0609	G-5				
0610	G-5				
0611	F-4				
0801	G-3				
0802	H-4				
0803	G-4				
0805	G-1				
0806	F-1				
0807	F-3				
0808	E-3				
0810	E-1				
0811	E-1				
0820	F-4				

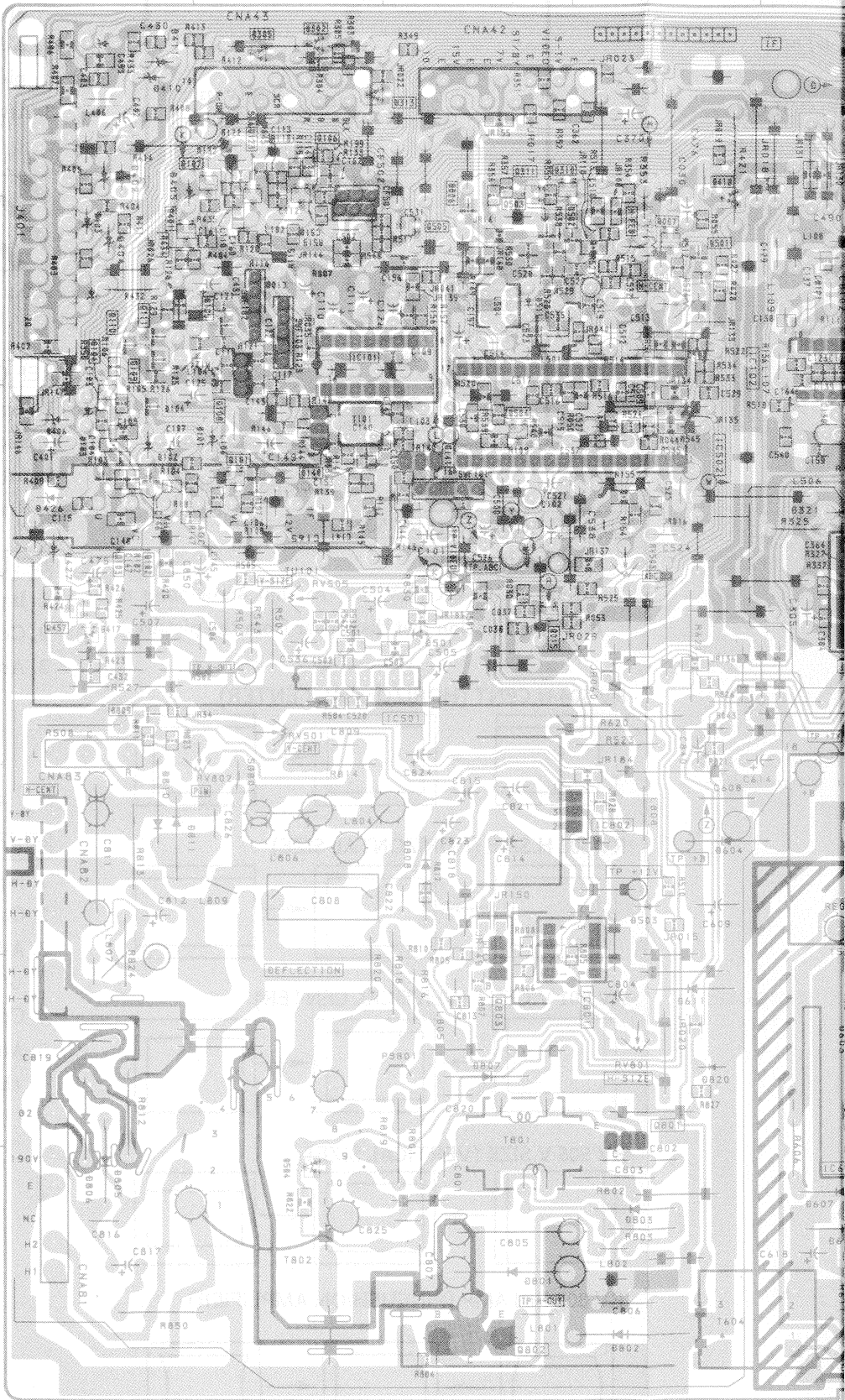
DIODE		DIODE		TRANSISTOR	
01301	B-10	0305	D-6		
01302	B-10	0307	D-6		
01303	B-10	0310	A-3		
01304	A-10	0311	A-3		
01305	A-10	0401	B-1		
01306	B-10	0457	D-1		
01307	B-10	0504	C-3		
		0505	D-3		
		0601	G-5		
		0801	F-4		
		0802	H-3		
		0803	F-3		
		01301	B-9		
		01302	D-10		
		01303	B-10		
		01304	A-10		
		01305	A-10		
		01306	D-10		

DIODE		DIODE		TRANSISTOR	
IC001	C-9	IC002	D-9		
IC003	D-10	IC004	E-9		
IC005	B-8	IC102	B-5		
IC201	F-8	IC301	D-5		
IC302	D-7	IC331	C-7		
IC501	D-2	IC502	C-4		
IC601	G-5	IC801	F-3		
IC802	E-4				

DIODE		DIODE		TRANSISTOR	
Q001	D-8	Q003	C-9		
Q004	D-10	Q005	B-8		
Q006	C-8	Q007	D-4		
Q015	D-3	Q016	D-10		
Q017	E-9	Q019	D-10		
Q020	D-8	Q104	C-1		
Q106	A-2	Q107	A-2		
Q112	A-7	Q114	D-5		
Q115	A-6	Q123	A-2		
Q141	C-3	Q302	C-7		
Q303	C-7	Q304	B-6		

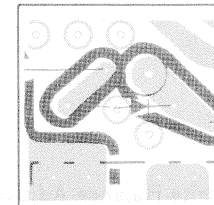
DIODE		DIODE		TRANSISTOR	
RV001	D-9	RV331	D-6		
RV501	D-2	RV502	B-4		
RV503	C-4	RV504	D-4		
RV505	D-2	RV801	F-4		

DIODE		DIODE		TRANSISTOR	
CT332	C-7				





A

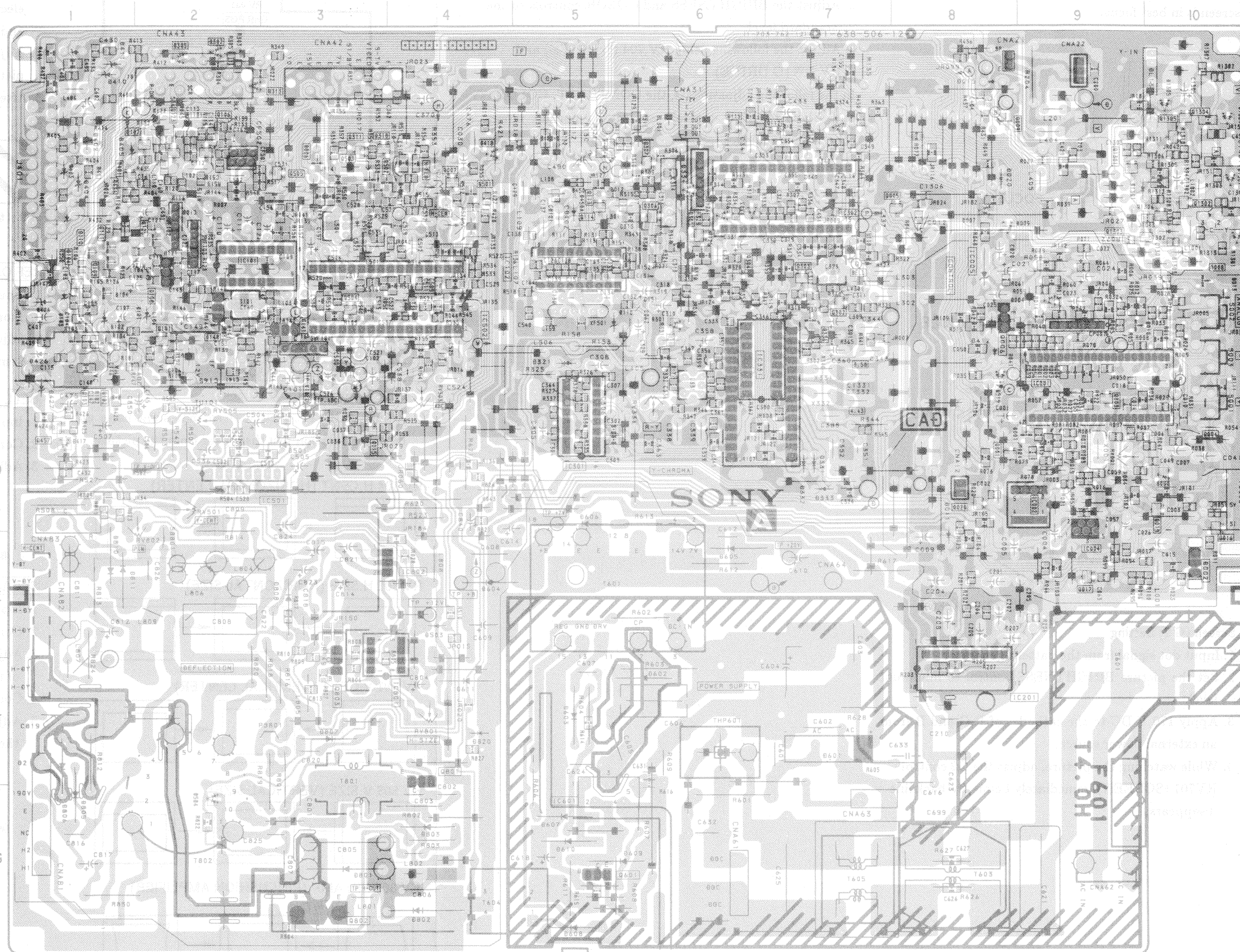
SYSTEM CONTROL, A/V OUT,  
H/V OUT, MEMORY, CHROMA

## NOTE:

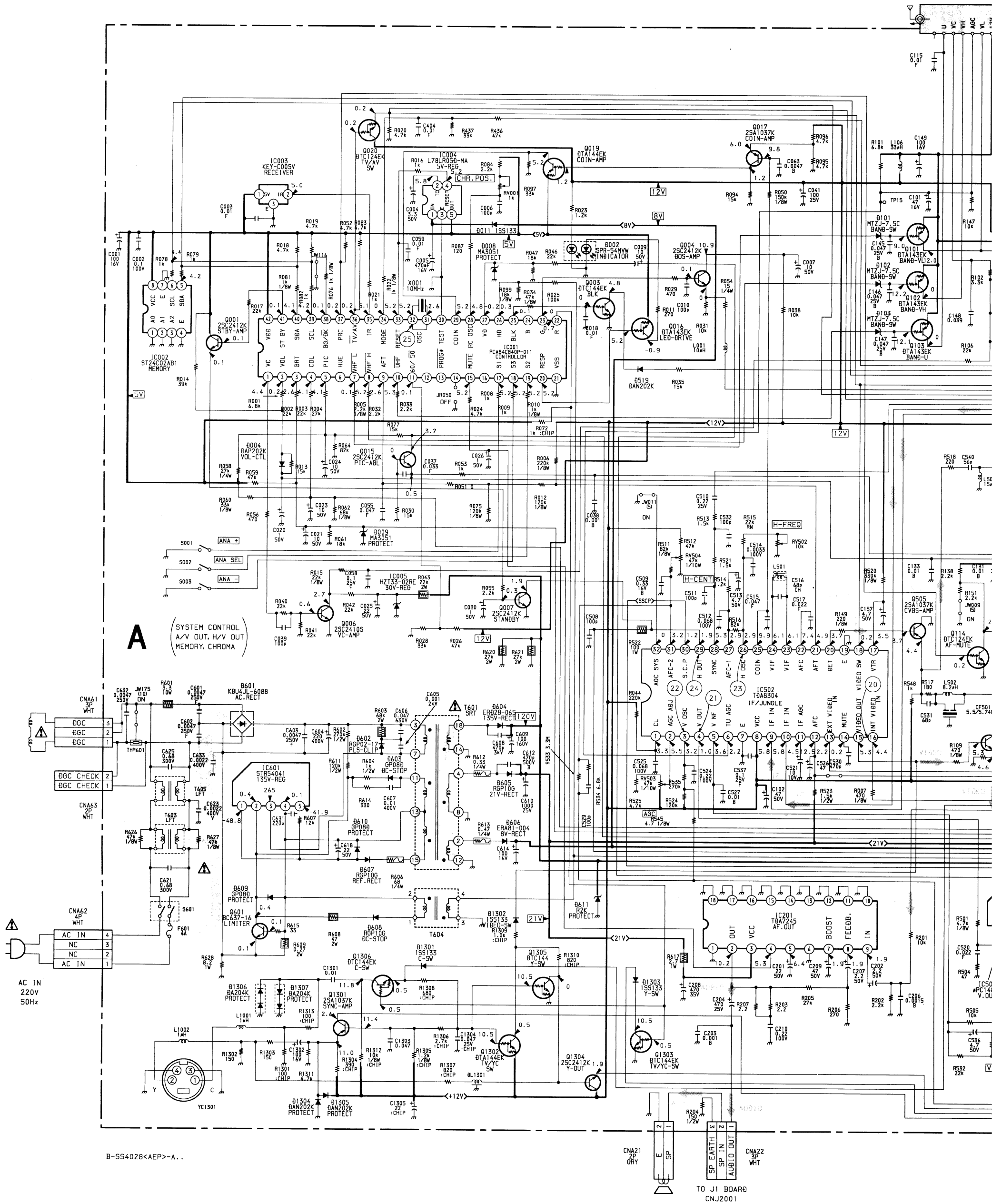
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

— A Board —

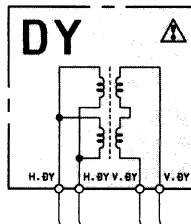
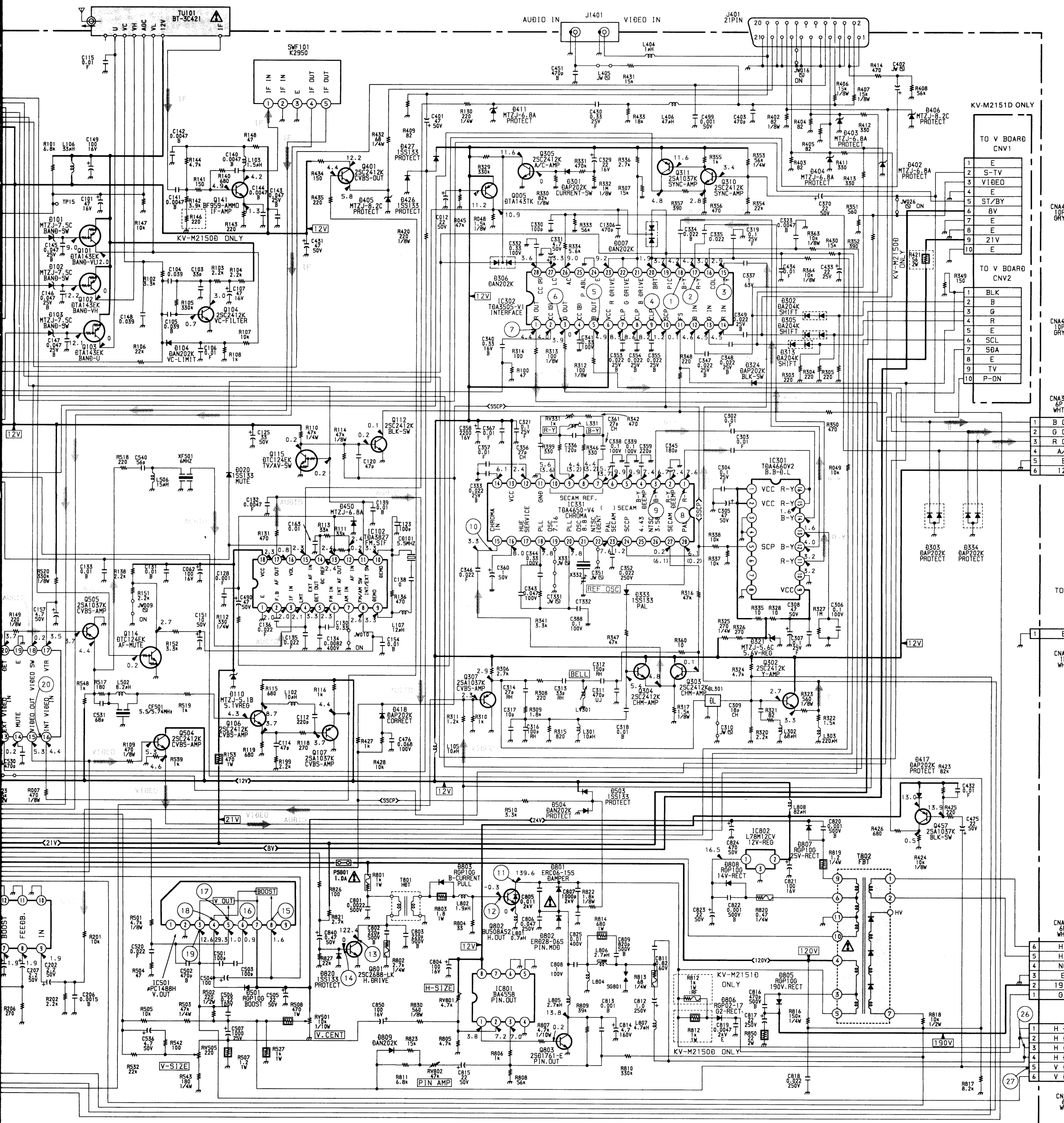
DIODE		DIODE		TRANSISTOR	
0002	E-10	01301	B-10	0305	D-6
0004	C-9	01302	B-10	0307	D-6
0007	B-8	01303	B-10	0310	A-3
0008	D-10	01304	A-10	0311	A-3
0009	B-8	01305	A-10	0401	B-1
0011	E-8	01306	B-10	0457	D-1
0020	B-8	01307	D-10	0504	C-3
0110	C-5			0505	D-3
0301	C-6			0601	G-5
0302	A-2			0801	F-4
0303	B-6			0802	H-3
0305	A-2	IC		0803	F-3
0306	D-6	IC001	C-9	01301	D-9
0313	A-3	IC002	D-9	01302	D-10
0321	C-5	IC003	D-10	01303	B-10
0324	A-7	IC004	E-9	01304	A-10
0333	D-7	IC005	D-8	01305	A-10
0334	D-6	IC102	B-5	01306	D-10
0402	A-1	IC201	F-8		
0403	B-1	IC301	D-5		
0404	B-1	IC302	D-7		
0405	A-1	IC331	C-7		
0406	C-1	IC501	D-2		
0411	A-1	IC502	C-4		
0417	D-1	IC601	G-5		
0418	A-4	IC801	F-3		
0426	C-1	IC802	E-4		
0427	C-1				
0450	B-5				
0501	D-3				
0503	E-4				
0504	G-2				
0519	C-8				
0601	F-7				
0602	F-6				
0603	F-5				
0604	E-4				
0605	E-6				
0606	D-5				
0607	G-5				
0608	H-5				
0609	G-5				
0610	G-5				
0611	F-4				
0801	G-3				
0802	H-4				
0803	G-4				
0805	G-1				
0806	F-1				
0807	F-3				
0808	E-3				
0810	E-1				
0811	E-1				
0820	F-4				

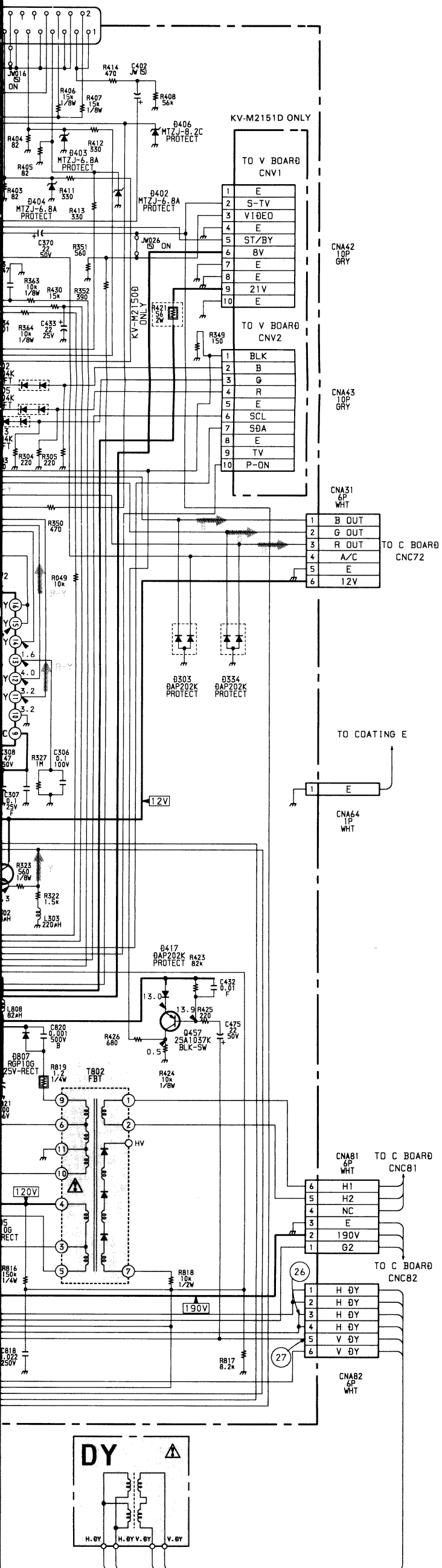


(1) Schematic Diagram of A Board





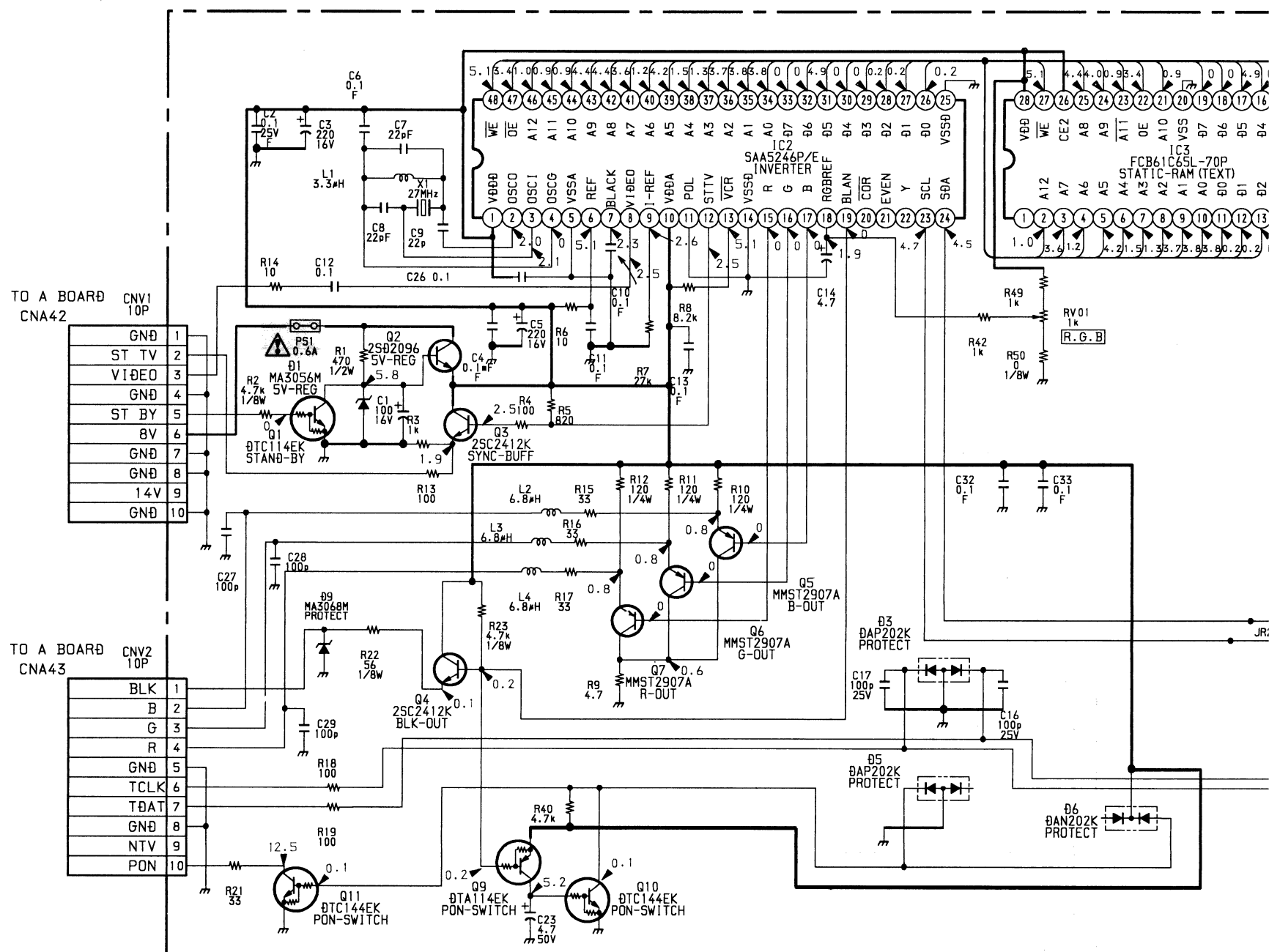




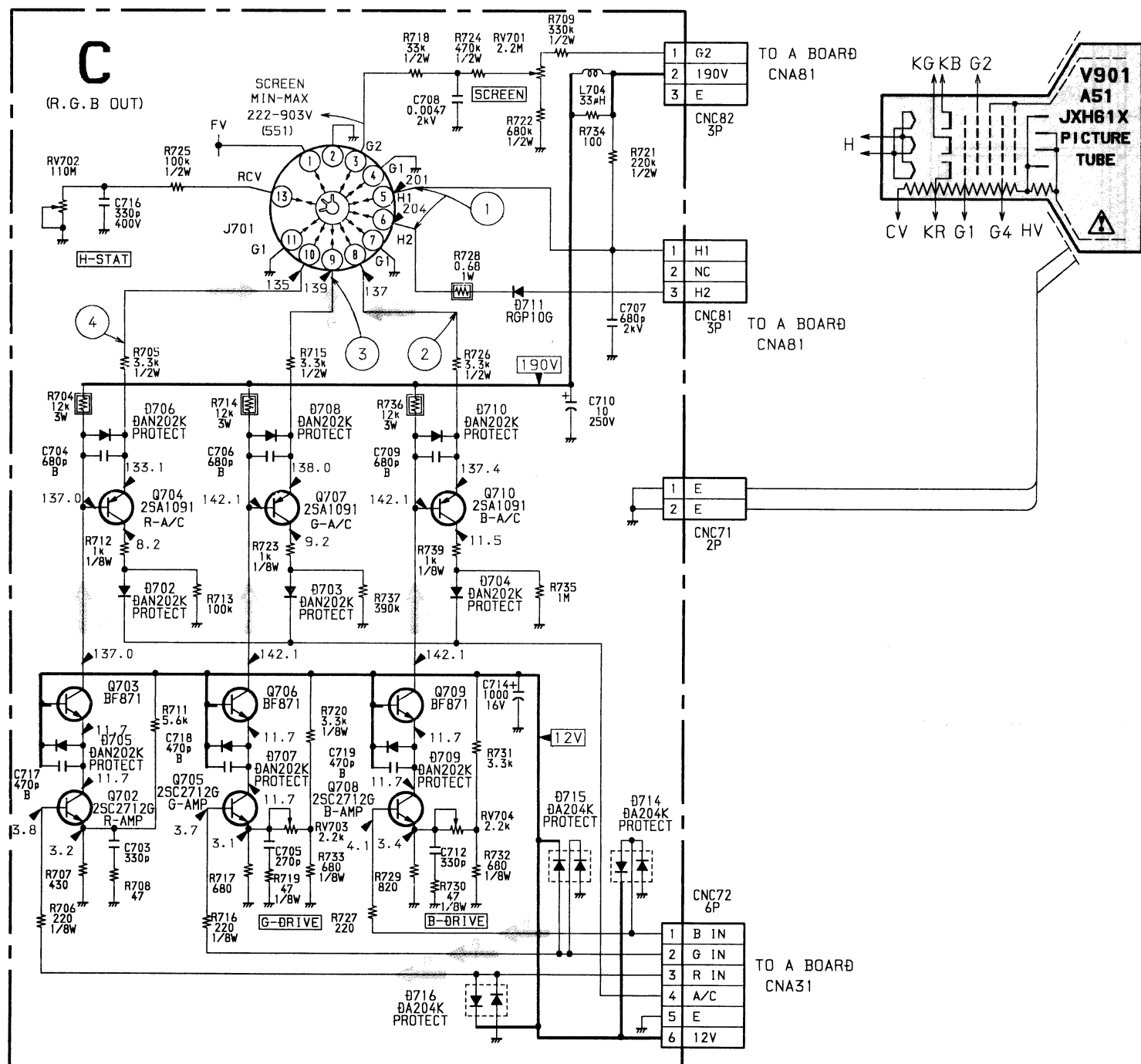
(2) Schematic Diagrams of V, C and J1 Boards

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

(KV-M2151D ONLY)

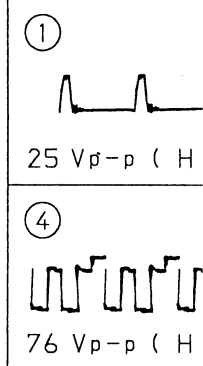


B-SS402



B-SS4026<UK>-C..

C BOARD WAVE





11

12

13

14

V

[TELE TEXT]

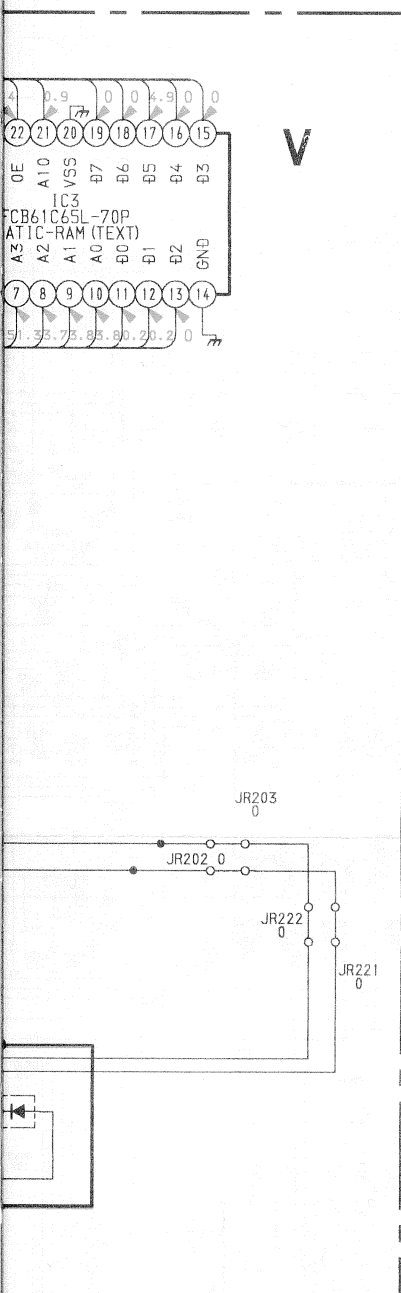
C

[R, G, B OUT]

J1

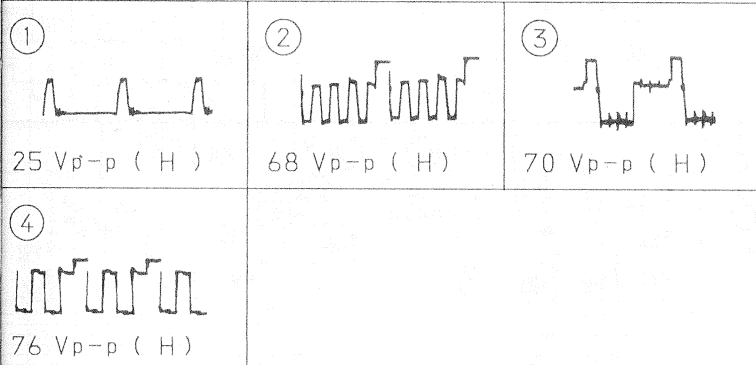
[JACK]

- V Board - (KV-M2151D ONLY)

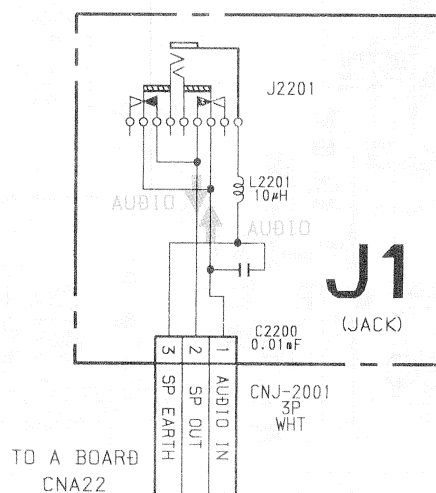


B-SS4026&lt;UK.&gt;-V.

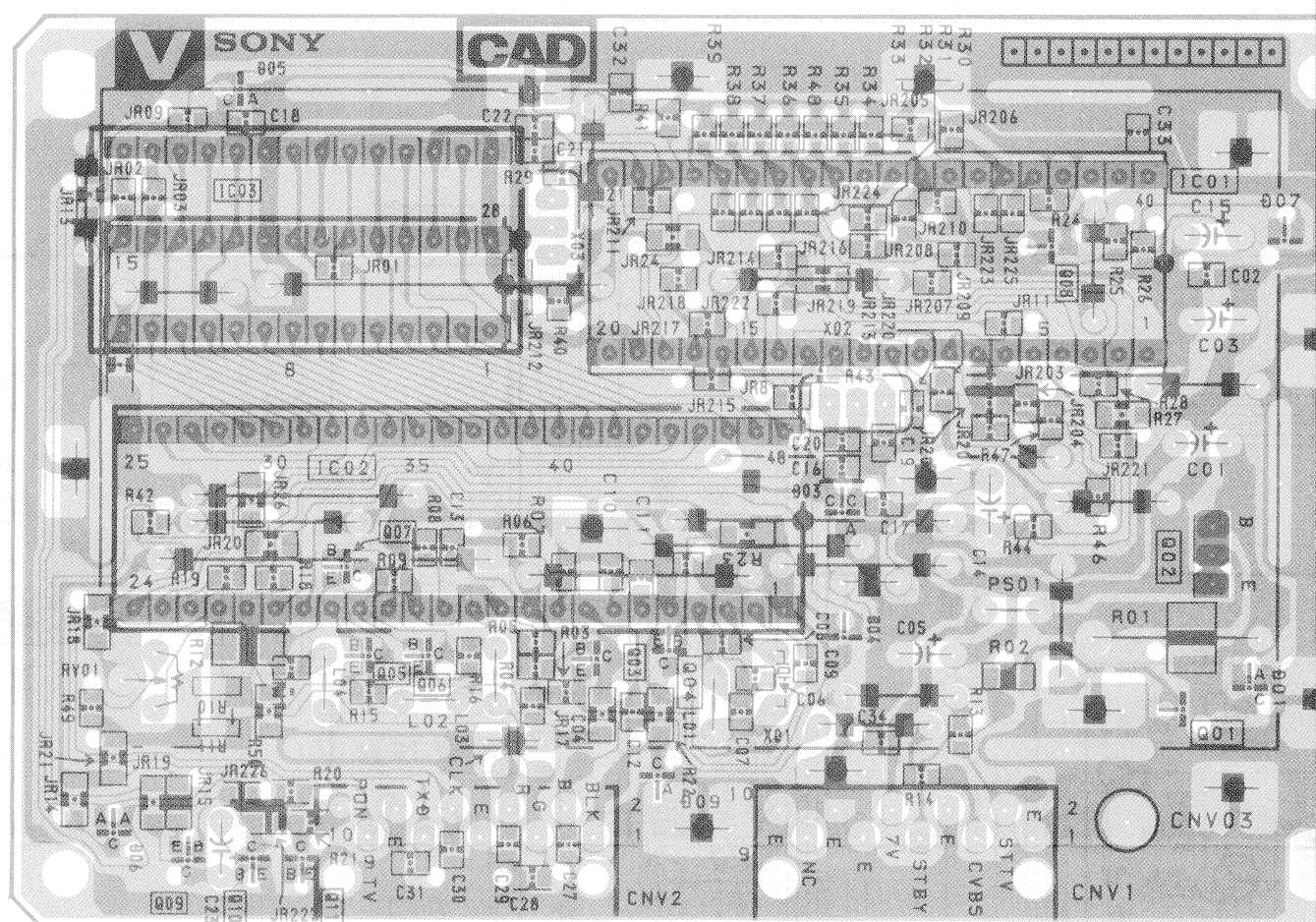
## C BOARD WAVEFORMS



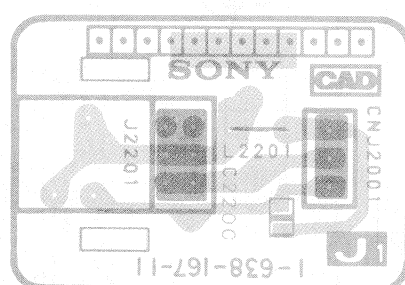
B-SS4030&lt;ET.&gt;-C&lt;WAVELIST&gt;



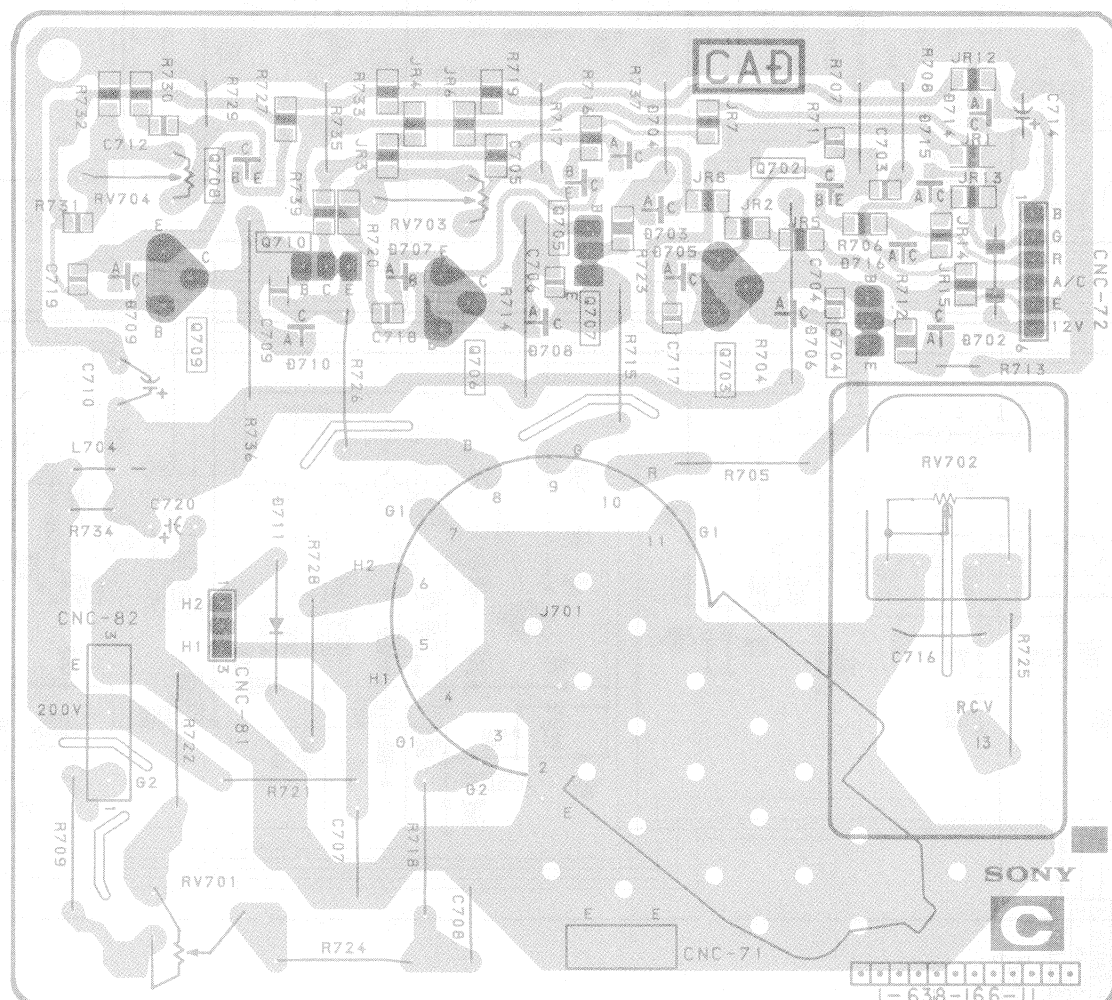
B-SS4026&lt;UK.&gt;-J1.

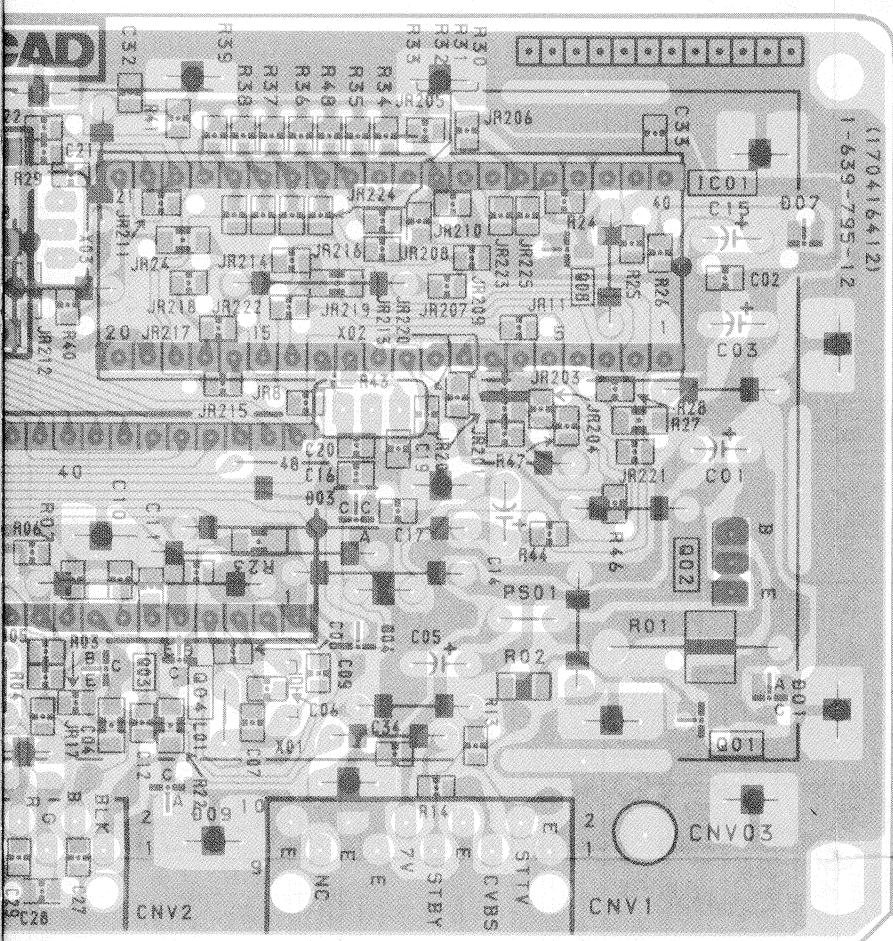


- J1 Board -



- C Board -

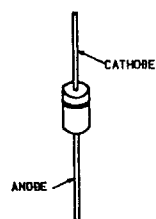




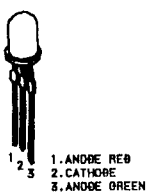
2SD2096-EF



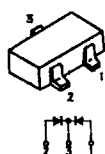
ERC06-15S



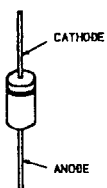
SPR-54MVW



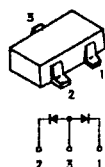
0AN202K  
MA152WK



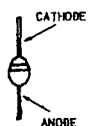
ER028-06S  
ER028-08S  
RGP02-17  
RGP10G  
RU-3AM  
R2K



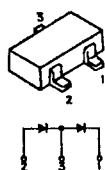
0AP202K



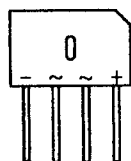
GP080  
U05G



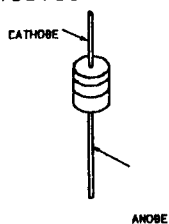
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1SS226



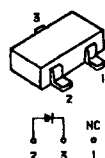
KBU4JL-6088  
RBV-406H-01



ERA83-006  
R05.1ES-B2  
R05.6ES-B2  
R06.8ES-B2  
R07.5ES-B2  
R08.2ES-B2  
1SS119  
1SS133



MA3051  
MA3056M  
MA3068M  
R05.1M-B2  
R05.6M-B2  
R06.8M-B2



## SECTION 6 EXPLODED VIEW

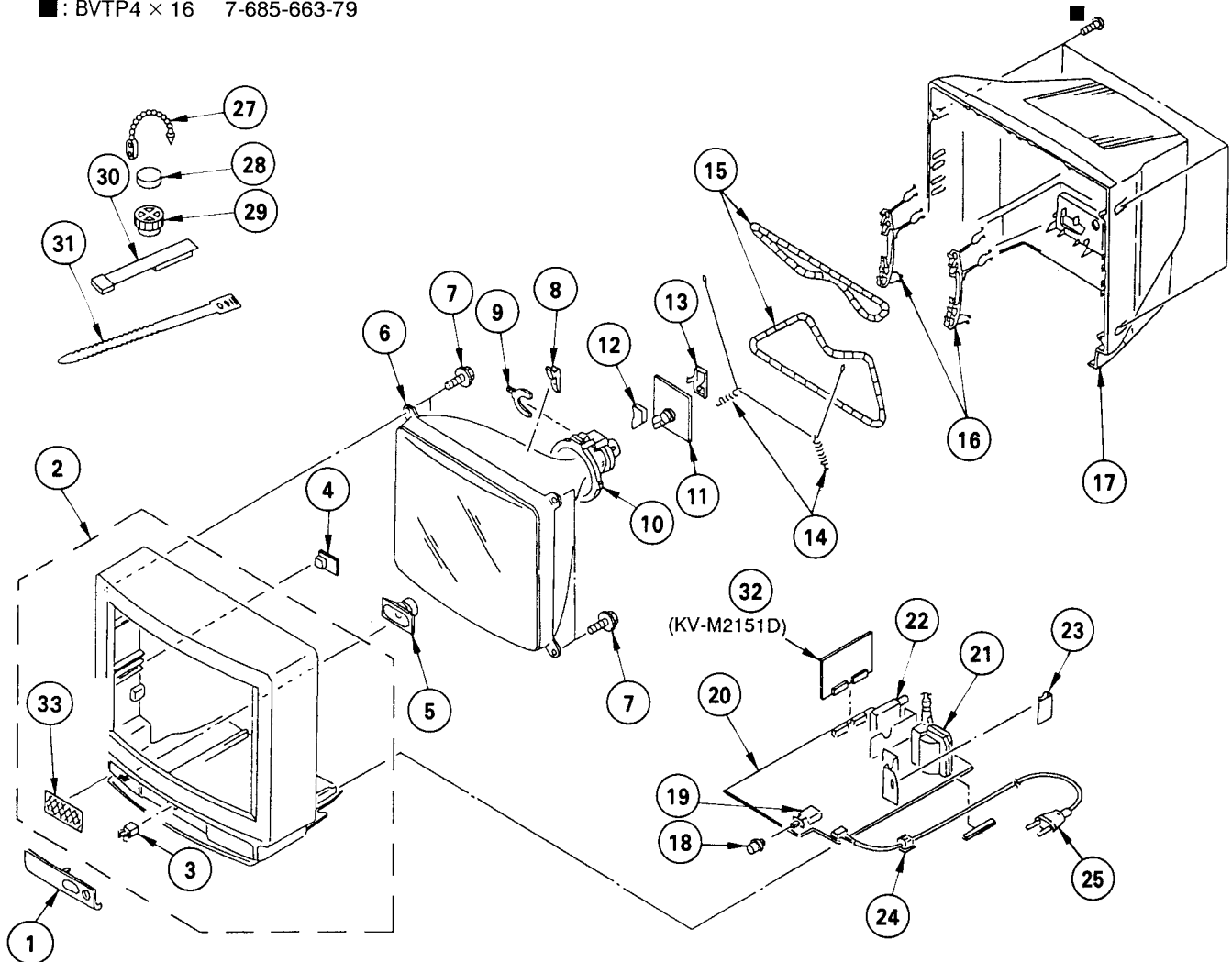
**NOTE:**

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark **▲** are critical for safety.  
Replace only with part number specified.

■: BVTP4 × 16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	X-4030-305-2	DOOR ASSY (KV-M2150D)		18	4-035-785-01	BUTTON, POWER	
	X-4030-305-1	DOOR ASSY (KV-M2151D)		19	▲ 1-571-433-12	SWITCH, PUSH (AC POWER)	
2	X-4030-295-1	CABINET ASSY (WITH BEZEL ASSY)	3, 33	20	*A-1632-089-A	A BOARD, COMPLETE (KV-M2150D)	
3	4-392-036-01	CATCHER, PUSH			*A-1632-086-A	A BOARD, COMPLETE (KV-M2151D)	
4	▲ 1-638-167-11	J1 BOARD		21	▲ 1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)	
5	1-503-258-21	SPEAKER		22	▲ 1-693-093-11	TUNER (BT-3C421)	
6	▲ 8-738-758-05	PICTURE TUBE (A51JXH61X)		23	*4-200-400-01	PLATE, INSULATION	
7	4-036-189-01	SCREW (S), PT		24	▲ 4-389-201-03	HOLDER, AC CORD	
8	3-704-495-01	SPACER, DY		25	▲ 1-590-501-11	CORD, POWER (WITH NOISE FILTER)	
9	1-452-277-00	MAGNET, BMC					
10	▲ 1-451-295-11	DEFLECTION YOKE (Y21PFA2)		27	4-308-870-00	CLIP, LEAD WIRE	
11	*A-1638-016-A	C BOARD, COMPLETE		28	1-452-032-00	MAGNET, DISK; 10MM φ	
12	*4-379-167-01	COVER (MAIN), CV		29	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
13	*4-379-160-01	COVER (REAR LID), CV		30	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
14	4-200-433-01	SPRING, EXTENSION		31	3-701-007-00	BAND, BINDING	
15	▲ 1-426-383-11	COIL, DEMAGNETIZATION		32	*A-1645-017-A	V BOARD, COMPLETE (KV-M2151D)	
16	*4-386-622-01	BAND, DGC		33	X-4030-384-1	GRILLE ASSY	
17	4-200-673-01	COVER, REAR					







A

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C321	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C517	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C323	1-163-055-00	CERAMIC CHIP 0.0047MF	10% 50V	C520	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C329	1-131-367-00	TANTALUM 22MF	10% 16V	C521	1-131-377-00	TANTALUM 10MF	10% 10V
C330	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C524	1-106-228-00	MYLAR 0.22MF	10% 100V
C331	1-124-927-11	ELECT 4.7MF	20% 50V	C525	1-106-216-00	MYLAR 0.068MF	10% 100V
C332	1-130-783-00	MYLAR 0.33MF	10% 100V	C526	1-124-910-11	ELECT 47MF	20% 50V
C333	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C527	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C334	1-163-063-00	CERAMIC CHIP 0.022MF	10% 50V	C529	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C335	1-163-063-00	CERAMIC CHIP 0.022MF	10% 50V	C530	1-163-197-00	CERAMIC CHIP 470PF	5% 50V
C336	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	C531	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C337	1-130-834-00	MYLAR 1MF	10% 63V	C532	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C338	1-106-220-00	MYLAR 0.1MF	10% 100V	C536	1-124-927-11	ELECT 4.7MF	20% 50V
C339	1-106-220-00	MYLAR 0.1MF	10% 100V	C537	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C340	1-162-568-11	CERAMIC CHIP 0.33MF	10% 16V	C540	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C341	1-130-783-00	MYLAR 0.33MF	10% 100V	C601 $\Delta$	1-161-964-61	CERAMIC 0.0047MF	250V
C343	1-106-383-00	MYLAR 0.047MF	10% 100V	C602 $\Delta$	1-161-964-61	CERAMIC 0.0047MF	250V
C344	1-130-783-00	MYLAR 0.33MF	10% 100V	C603	1-162-599-12	CERAMIC 0.0047MF	250V
C345	1-163-187-00	CERAMIC CHIP 180PF	5% 50V	C604	1-125-318-00	ELECT (BLOCK) 220MF	20% 400V
C346	1-163-033-00	CERAMIC CHIP 0.022MF	50V	C605	1-161-754-00	CERAMIC 0.001MF	10% 2KV
C347	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C606	1-136-637-11	FILM 0.047MF	10% 630V
C348	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C607	1-106-367-00	MYLAR 0.01MF	10% 400V
C349	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C608	1-161-753-00	CERAMIC 470PF	10% 3KV
C352	1-106-375-12	MYLAR 0.022MF	10% 250V	C609	1-124-347-00	ELECT 100MF	20% 160V
C353	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C610	1-124-557-11	ELECT 1000MF	20% 25V
C354	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C612	1-102-228-00	CERAMIC 470PF	10% 500V
C355	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C614	1-126-101-11	ELECT 100MF	20% 16V
C356	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	C618	1-126-233-11	ELECT 22MF	20% 50V
C357	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C621 $\Delta$	1-136-879-11	FILM 0.68MF	20% 300V
C358	1-124-556-11	ELECT 2200MF	20% 16V	C623 $\Delta$	1-164-246-61	CERAMIC 0.0022MF	20% 400V
C359	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C625 $\Delta$	1-136-879-11	FILM 0.68MF	20% 300V
C360	1-124-903-11	ELECT 1MF	20% 50V	C631	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C361	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	C632 $\Delta$	1-161-964-61	CERAMIC 0.0047MF	250V
C367	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C633 $\Delta$	1-164-246-61	CERAMIC 0.0022MF	20% 400V
C370	1-126-233-11	ELECT 22MF	20% 50V	C801	1-101-821-00	CERAMIC 0.0022MF	500V
C388	1-106-220-00	MYLAR 0.1MF	10% 100V	C802	1-102-244-00	CERAMIC 220PF	10% 500V
C401	1-124-910-11	ELECT 47MF	20% 50V	C804	1-126-101-11	ELECT 100MF	20% 16V
C403	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	C805 $\Delta$	1-136-080-11	FILM 0.011MF	3% 2KV
C404	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C806	1-136-187-11	FILM 0.047MF	10% 250V
C430	1-164-336-11	CERAMIC CHIP 0.33MF	25V	C807 $\Delta$	1-161-731-51	CERAMIC 0.001MF	10% 2KV
C431	1-124-910-11	ELECT 47MF	20% 50V	C808	1-136-933-11	FILM 1MF	5% 100V
C432	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C809	1-102-212-00	CERAMIC 820PF	10% 500V
C433	1-126-233-11	ELECT 22MF	20% 25V	C811	1-136-540-11	FILM 0.82MF	5% 160V
C434	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C812	1-124-634-11	ELECT 1MF	20% 250V
C451	1-163-197-00	CERAMIC CHIP 470PF	10% 50V	C813	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C475	1-126-233-11	ELECT 22MF	20% 50V	C814	1-126-542-11	ELECT 4.7MF	20% 160V
C476	1-106-216-00	MYLAR 0.068MF	10% 100V	C815	1-126-233-11	ELECT 22MF	20% 50V
C490	1-124-910-11	ELECT 47MF	20% 50V	C816	1-102-228-00	CERAMIC 470PF	10% 500V
C499	1-163-205-00	CERAMIC CHIP 0.001MF	10% 50V	C817	1-123-948-00	ELECT 22MF	20% 250V
C501	1-163-181-00	CERAMIC CHIP 100PF	5% 50V	C818	1-106-375-12	MYLAR 0.022MF	10% 250V
C502	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	C819	1-162-114-00	CERAMIC 0.0047MF	2KV
C503	1-163-181-00	CERAMIC CHIP 100PF	5% 50V	C820	1-162-318-11	CERAMIC 0.001MF	10% 500V
C504	1-124-122-11	ELECT 100MF	20% 50V	C821	1-126-101-11	ELECT 100MF	20% 16V
C505	1-126-233-11	ELECT 22MF	20% 50V	C822	1-162-318-11	CERAMIC 0.001MF	10% 500V
C506	1-106-228-00	MYLAR 0.22MF	10% 100V	C823	1-126-233-11	ELECT 22MF	20% 50V
C507	1-124-557-11	ELECT 1000MF	20% 25V	C824	1-124-913-11	ELECT 470MF	20% 50V
C508	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C825	1-136-204-11	MYLAR 0.015MF	10% 400V
C509	1-162-568-11	CERAMIC CHIP 0.33MF	10% 16V	C840	1-124-902-00	ELECT 0.47MF	20% 50V
C510	1-163-081-00	CERAMIC CHIP 0.22MF	25V	C850	1-126-101-11	ELECT 100MF	20% 16V
C511	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C1301	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C512	1-106-216-00	MYLAR 0.068MF	10% 100V	C1302	1-126-101-11	ELECT 100MF	20% 16V
C513	1-124-927-11	ELECT 4.7MF	20% 50V	C1303	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C514	1-136-298-00	FILM 0.0033MF	5% 100V	C1304	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C515	1-163-035-00	CERAMIC CHIP 0.047MF	50V				
C516	1-163-113-00	CERAMIC CHIP 68PF	5% 50V				

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C1305	1-126-233-11	ELECT 22MF	20% 50V	D504	8-719-400-18	DIODE MA152WK	
C1306	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	D519	8-719-400-18	DIODE MA152WK	
<FILTER>				D601	$\Delta$ 8-719-946-90	DIODE KBU4JL-6088	
CD101	1-579-110-11	DISCRIMINATOR, CERAMIC		D602	8-719-976-64	DIODE RGP02-17	
CF501	1-404-801-11	TRAP, CERAMIC		D603	8-719-911-55	DIODE U05G	
SWF101	1-579-120-11	FILTER, SURFACE WAVE		D604	8-719-928-08	DIODE ERD28-08S	
XF501	1-527-840-00	FILTER, CERAMIC		D605	8-719-300-33	DIODE RU-3AM	
<CONNECTOR>				D606	8-719-980-78	DIODE ERA83-006	
CNA21	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		D607	8-719-300-33	DIODE RU-3AM	
CNA22	*1-568-878-51	PIN, CONNECTOR 3P		D608	8-719-300-33	DIODE RU-3AM	
CNA42	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR(KV-M2151D)		D609	8-719-911-55	DIODE U05G	
CNA43	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR(KV-M2151D)		D610	8-719-911-55	DIODE U05G	
CNA61	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		D611	8-719-312-40	DIODE R2K	
CNA62	*1-580-844-11	PIN, CONNECTOR (POWER)		D801	8-719-945-80	DIODE ERC06-15S	
CNA63	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		D802	8-719-928-08	DIODE ERD28-08S	
CNA64	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P		D803	8-719-300-33	DIODE RU-3AM	
CNA81	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P		D805	8-719-300-33	DIODE RU-3AM	
CNA82	*1-580-798-11	CONNECTOR PIN (DY) 6P		D806	8-719-976-64	DIODE RGP02-17	
<TRIMMER>				D807	8-719-300-33	DIODE RU-3AM	
CT332	1-141-418-11	CAP, ADJ		D808	8-719-300-33	DIODE RU-3AM	
<DIODE>				D809	8-719-400-18	DIODE MA152WK	
D002	8-719-920-55	DIODE SPR-54MW		D820	8-719-911-19	DIODE ISS119	
D004	8-719-914-44	DIODE DAP202K		D1301	8-719-911-19	DIODE ISS119	
D007	8-719-400-18	DIODE MA152WK		D1302	8-719-911-19	DIODE ISS119	
D008	8-719-105-82	DIODE RD5.1M-B2		D1303	8-719-911-19	DIODE ISS119	
D009	8-719-105-82	DIODE RD5.1M-B2		D1304	8-719-400-18	DIODE MA152WK	
D011	8-719-911-19	DIODE ISS119		D1305	8-719-400-18	DIODE MA152WK	
D020	8-719-911-19	DIODE ISS119		D1306	8-719-800-76	DIODE ISS226	
D101	8-719-110-03	DIODE RD7.5ES-B2		D1307	8-719-800-76	DIODE ISS226	
D102	8-719-110-03	DIODE RD7.5ES-B2		<DELAY LINE>			
D103	8-719-110-03	DIODE RD7.5ES-B2		DL301	1-236-062-11	MODULE, Y DELAY LINE	
D104	8-719-400-18	DIODE MA152WK		DL1301	1-415-613-11	DELAY LINE, Y	
D110	8-719-109-85	DIODE RD5.1ES-B2		<FUSE>			
D301	8-719-914-44	DIODE DAP202K		F601	$\Delta$ 1-576-231-21	FUSE (H.B.C.) 4A/250V	
D302	8-719-800-76	DIODE ISS226			1-533-230-11	HOLDER, FUSE; F601	
D303	8-719-914-44	DIODE DAP202K		<IC>			
D305	8-719-800-76	DIODE ISS226		IC001	8-759-062-07	IC PCA84C840P/016	
D306	8-719-400-18	DIODE MA152WK		IC002	8-759-043-86	IC ST24C02AB1	
D313	8-719-800-76	DIODE ISS226		IC003	8-749-922-13	IC KEY-C00SV-F	
D321	8-719-109-89	DIODE RD5.6ES-B2		IC004	8-759-805-37	IC L78LRO5D-MA	
D324	8-719-914-44	DIODE DAP202K		IC005	8-759-157-40	IC UPC574J	
D333	8-719-911-19	DIODE ISS119		IC102	8-759-044-41	IC TDA3827/V3	
D334	8-719-914-44	DIODE DAP202K		IC201	8-759-502-74	IC TDA7245	
D402	8-719-109-97	DIODE RD6.8ES-B2		IC301	8-759-505-39	IC TDA4660V2	
D403	8-719-109-97	DIODE RD6.8ES-B2		IC302	8-759-512-04	IC TDA3505-V1	
D404	8-719-109-97	DIODE RD6.8ES-B2		IC331	8-759-521-22	IC TDA4650/V4	
D405	8-719-110-09	DIODE RD8.2ES-B3		IC501	8-759-113-13	IC UPC1498H	
D406	8-719-110-09	DIODE RD8.2ES-B3			*4-389-343-01	SPRING; IC501	
D411	8-719-109-97	DIODE RD6.8ES-B2		IC502	8-759-515-72	IC TDA8304	
D417	8-719-914-44	DIODE DAP202K		IC601	8-749-901-65	IC STR54041	
D418	8-719-914-44	DIODE DAP202K			*4-368-683-01	SPRING; IC601	
D426	8-719-911-19	DIODE ISS119		IC801	8-759-945-58	IC RC4558P	
D427	8-719-911-19	DIODE ISS119		IC802	8-759-604-39	IC M5F78M12L	
D450	8-719-109-97	DIODE RD6.8ES-B2			*4-389-343-01	SPRING; IC802	
D501	8-719-300-33	DIODE RU-3AM		<JACK>			
D503	8-719-911-19	DIODE ISS119		J401	1-561-534-00	SOCKET 21P	

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Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
J1401	1-563-500-11	JACK BLOCK, PIN (L TYPE) 2P		Q305	8-729-230-49	TRANSISTOR 2SC2712-YG	
	<COIL>			Q307	8-729-216-22	TRANSISTOR 2SA1162-G	
L001	1-408-409-00	INDUCTOR 10UH		Q310	8-729-230-49	TRANSISTOR 2SC2712-YG	
L102	1-408-409-00	INDUCTOR 10UH		Q311	8-729-216-22	TRANSISTOR 2SA1162-G	
L103	1-408-399-00	INDUCTOR 1.5UH		Q401	8-729-230-49	TRANSISTOR 2SC2712-YG	
L105	1-410-872-21	INDUCTOR 10UH		Q457	8-729-216-22	TRANSISTOR 2SA1162-G	
L106	1-408-415-00	INDUCTOR 33UH		Q504	8-729-230-49	TRANSISTOR 2SC2712-YG	
L107	1-408-410-00	INDUCTOR 12UH		Q505	8-729-216-22	TRANSISTOR 2SA1162-G	
L301	1-408-409-00	INDUCTOR 10UH		Q601	8-729-906-74	TRANSISTOR BC637-16	
L302	1-408-419-00	INDUCTOR 68UH		Q801	8-729-119-80	TRANSISTOR 2SC2688-LK	
L303	1-408-425-00	INDUCTOR 220UH		Q802	8-729-925-64	TRANSISTOR BU508AS2	
L331	1-404-554-11	COIL		*4-389-343-01		SPRING; Q802	
L404	1-408-397-00	INDUCTOR 1UH		Q803	8-729-202-03	TRANSISTOR 2SD1408-Y	
L406	1-408-417-00	INDUCTOR 47UH		*4-389-343-01		SPRING; Q803	
L407	1-410-872-21	INDUCTOR 10UH		Q1301	8-729-216-22	TRANSISTOR 2SA1162-G	
L501	1-404-493-31	COIL		Q1302	8-729-901-06	TRANSISTOR DTA144EK	
L502	1-408-408-00	INDUCTOR 8.2UH		Q1303	8-729-901-01	TRANSISTOR DTC144EK	
L506	1-408-411-00	INDUCTOR 15UH		Q1304	8-729-230-49	TRANSISTOR 2SC2712-YG	
L801	1-407-365-00	COIL, CHOKE		Q1305	8-729-901-01	TRANSISTOR DTC144EK	
L802	1-420-872-00	COIL, AIR CORE		Q1306	8-729-901-01	TRANSISTOR DTC144EK	
L804	1-459-390-00	COIL (WITH CORE)			<RESISTOR>		
L805	1-459-105-21	COIL (WITH CORE)		JR003	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L806	1-459-652-12	HLC		JR004	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L807	1-408-239-00	INDUCTOR 4.7MMH		JR005	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L808	1-408-226-00	INDUCTOR 82UH		JR006	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L1001	1-408-397-00	INDUCTOR 1UH		JR009	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L1002	1-408-397-00	INDUCTOR 1UH		JR010	1-216-295-00	METAL GLAZE 0 5% 1/10W	
	<VARIABLE COIL>			JR011	1-216-295-00	METAL GLAZE 0 5% 1/10W	
LV301	1-404-554-11	COIL		JR012	1-216-295-00	METAL GLAZE 0 5% 1/10W	
	<IC LINK>			JR015	1-216-295-00	METAL GLAZE 0 5% 1/10W	
PS8Q1A	1-532-637-91	LINK, IC 1A		JR016	1-216-295-00	METAL GLAZE 0 5% 1/10W	
	<TRANSISTOR>			JR017	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q001	8-729-230-49	TRANSISTOR 2SC2712-YG		JR018	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q003	8-729-901-01	TRANSISTOR DTC144EK		JR019	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q004	8-729-230-49	TRANSISTOR 2SC2712-YG		JR020	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q005	8-729-923-54	TRANSISTOR DTA143TK		JR026	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q006	8-729-922-66	TRANSISTOR 2SC2410SN		JR027	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q007	8-729-230-49	TRANSISTOR 2SC2712-YG		JR028	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q015	8-729-230-49	TRANSISTOR 2SC2712-YG		JR029	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q016	8-729-901-47	TRANSISTOR DTA143EK		JR030	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q017	8-729-216-22	TRANSISTOR 2SA1162-G		JR034	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q019	8-729-901-06	TRANSISTOR DTA144EK		JR036	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q020	8-729-901-00	TRANSISTOR DTC124EK		JR037	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q101	8-729-901-47	TRANSISTOR DTA143EK		JR038	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q102	8-729-901-47	TRANSISTOR DTA143EK		JR039	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q103	8-729-901-47	TRANSISTOR DTA143EK		JR045	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q104	8-729-230-49	TRANSISTOR 2SC2712-YG		JR060	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q106	8-729-230-49	TRANSISTOR 2SC2712-YG		JR099	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q107	8-729-216-22	TRANSISTOR 2SA1162-G		JR101	1-216-296-00	METAL GLAZE 0 5% 1/8W	
Q112	8-729-230-49	TRANSISTOR 2SC2712-YG		JR102	1-216-296-00	METAL GLAZE 0 5% 1/8W	
Q114	8-729-901-00	TRANSISTOR DTC124EK		JR103	1-216-296-00	METAL GLAZE 0 5% 1/8W	
Q115	8-729-901-00	TRANSISTOR DTC124EK		JR104	1-216-296-00	METAL GLAZE 0 5% 1/8W	
Q141	8-729-014-99	TRANSISTOR BF959-AMMO		JR105	1-216-296-00	METAL GLAZE 0 5% 1/8W	
Q302	8-729-230-49	TRANSISTOR 2SC2712-YG		JR106	1-216-296-00	METAL GLAZE 0 5% 1/8W	
Q303	8-729-230-49	TRANSISTOR 2SC2712-YG		JR107	1-216-296-00	METAL GLAZE 0 5% 1/8W	
Q304	8-729-230-49	TRANSISTOR 2SC2712-YG		JR108	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR109	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR110	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR111	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR117	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR118	1-216-296-00	METAL GLAZE 0 5% 1/8W	

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
JR119	1-216-296-00	METAL GLAZE	0 5% 1/8W	R040	1-216-081-00	METAL GLAZE	22K 5% 1/10W
JR123	1-216-296-00	METAL GLAZE	0 5% 1/8W	R041	1-216-081-00	METAL GLAZE	22K 5% 1/10W
JR125	1-216-296-00	METAL GLAZE	0 5% 1/8W	R042	1-216-081-00	METAL GLAZE	22K 5% 1/10W
JR126	1-216-296-00	METAL GLAZE	0 5% 1/8W	R043	1-215-900-11	METAL OXIDE	22K 5% 2W
JR127	1-216-296-00	METAL GLAZE	0 5% 1/8W	R044	1-216-105-00	METAL GLAZE	220K 5% 1/10W
JR128	1-216-296-00	METAL GLAZE	0 5% 1/8W	R045	1-216-089-00	METAL GLAZE	47K 5% 1/10W
JR129	1-216-296-00	METAL GLAZE	0 5% 1/8W	R046	1-216-081-00	METAL GLAZE	22K 5% 1/10W
JR130	1-216-296-00	METAL GLAZE	0 5% 1/8W	R047	1-216-079-00	METAL GLAZE	18K 5% 1/10W
JR131	1-216-296-00	METAL GLAZE	0 5% 1/8W	R048	1-216-202-00	METAL GLAZE	1.5K 5% 1/8W
JR133	1-216-296-00	METAL GLAZE	0 5% 1/8W	R049	1-216-073-00	METAL GLAZE	10K 5% 1/10W
JR134	1-216-296-00	METAL GLAZE	0 5% 1/8W	R050	1-216-250-00	METAL GLAZE	150K 5% 1/8W
JR135	1-216-296-00	METAL GLAZE	0 5% 1/8W	R051	1-216-295-00	METAL GLAZE	0 5% 1/10W
JR136	1-216-296-00	METAL GLAZE	0 5% 1/8W	R052	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JR137	1-216-296-00	METAL GLAZE	0 5% 1/8W	R053	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR139	1-216-296-00	METAL GLAZE	0 5% 1/8W	R054	1-249-395-11	CARBON	15 5% 1/4W
JR144	1-216-296-00	METAL GLAZE	0 5% 1/8W	R055	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
JR146	1-216-296-00	METAL GLAZE	0 5% 1/8W	R056	1-216-041-00	METAL GLAZE	470 5% 1/10W
JR147	1-216-296-00	METAL GLAZE	0 5% 1/8W	R058	1-249-434-11	CARBON	27K 5% 1/4W
JR148	1-216-296-00	METAL GLAZE	0 5% 1/8W	R059	1-216-089-00	METAL GLAZE	47K 5% 1/10W
JR149	1-216-296-00	METAL GLAZE	0 5% 1/8W	R060	1-216-234-00	METAL GLAZE	33K 5% 1/8W
JR150	1-216-296-00	METAL GLAZE	0 5% 1/8W	R061	1-216-079-00	METAL GLAZE	18K 5% 1/10W
JR151	1-216-296-00	METAL GLAZE	0 5% 1/8W	R062	1-216-242-00	METAL GLAZE	68K 5% 1/8W
JR152	1-216-296-00	METAL GLAZE	0 5% 1/8W	R064	1-216-095-00	METAL GLAZE	82K 5% 1/10W
JR153	1-216-296-00	METAL GLAZE	0 5% 1/8W	R072	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR155	1-216-296-00	METAL GLAZE	0 5% 1/8W	R075	1-216-248-00	METAL GLAZE	120K 5% 1/8W
JR181	1-216-296-00	METAL GLAZE	0 5% 1/8W	R076	1-216-198-00	METAL GLAZE	1K 5% 1/8W
JR182	1-216-296-00	METAL GLAZE	0 5% 1/8W	R077	1-216-077-00	METAL GLAZE	15K 5% 1/10W
JR183	1-216-296-00	METAL GLAZE	0 5% 1/8W	R078	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR184	1-216-296-00	METAL GLAZE	0 5% 1/8W	R079	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R001	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R081	1-216-198-00	METAL GLAZE	1K 5% 1/8W
R002	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R082	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R003	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R083	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R004	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R084	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R005	1-216-206-00	METAL GLAZE	2.2K 5% 1/8W	R087	1-216-027-00	METAL GLAZE	120 5% 1/10W
R006	1-216-254-00	METAL GLAZE	220K 5% 1/8W	R094	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R007	1-216-190-00	METAL GLAZE	470 5% 1/8W	R095	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R008	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R096	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R009	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R097	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R010	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R099	1-216-228-00	METAL GLAZE	18K 5% 1/8W
R011	1-216-035-00	METAL GLAZE	270 5% 1/10W	R100	1-216-017-00	METAL GLAZE	47 5% 1/10W
R012	1-216-248-00	METAL GLAZE	120K 5% 1/8W	R101	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R013	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R102	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R014	1-216-689-11	METAL GLAZE	39K 5% 1/10W	R103	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R015	1-216-230-00	METAL GLAZE	22K 5% 1/8W	R104	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R016	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R105	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R017	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R106	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R018	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R107	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R019	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R108	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R020	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R109	1-216-190-00	METAL GLAZE	470 5% 1/8W
R021	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R110	1-249-437-11	CARBON	47K 5% 1/4W
R022	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R111	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R023	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R112	1-249-411-11	CARBON	330 5% 1/4W
R024	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R113	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R025	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R114	1-216-238-00	METAL GLAZE	47K 5% 1/8W
R026	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R115	1-216-045-00	METAL GLAZE	680 5% 1/10W
R028	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R116	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R029	1-216-041-00	METAL GLAZE	470 5% 1/10W	R118	1-216-035-00	METAL GLAZE	270 5% 1/10W
R030	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R119	1-216-045-00	METAL GLAZE	680 5% 1/10W
R031	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R130	1-249-409-11	CARBON	220 5% 1/4W
R032	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R131	1-216-041-00	METAL GLAZE	470 5% 1/10W
R033	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R132	1-216-295-00	METAL GLAZE	0 5% 1/10W
R034	1-216-238-00	METAL GLAZE	47K 5% 1/8W	R136	1-216-041-00	METAL GLAZE	470 5% 1/10W
R035	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R138	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R038	1-216-073-00	METAL GLAZE	10K 5% 1/10W				

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R139	1-216-295-00	METAL GLAZE	0 5% 1/10W	R351	1-216-043-00	METAL GLAZE	560 5% 1/10W
R140	1-216-045-00	METAL GLAZE	680 5% 1/10W	R352	1-216-039-00	METAL GLAZE	390 5% 1/10W
R141	1-216-029-00	METAL GLAZE	150 5% 1/10W	R353	1-249-438-11	CARBON	56K 5% 1/4W
R142	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R354	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R143	1-216-033-00	METAL GLAZE	220 5% 1/10W	R355	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R144	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R356	1-216-041-00	METAL GLAZE	470 5% 1/10W
R146	1-216-033-00	METAL GLAZE	220 5% 1/10W	(KV-M2150D)			
R147	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R357	1-216-039-00	METAL GLAZE	390 5% 1/10W
R148	1-216-017-00	METAL GLAZE	47 5% 1/10W	R360	1-216-001-00	METAL GLAZE	10 5% 1/10W
R149	1-216-182-00	METAL GLAZE	220 5% 1/8W	R363	1-216-222-00	METAL GLAZE	10K 5% 1/8W
R151	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R364	1-216-222-00	METAL GLAZE	10K 5% 1/8W
R152	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R399	1-216-037-00	METAL GLAZE	330 5% 1/10W
R153	1-215-867-00	METAL OXIDE	470 5% 1W	R402	1-216-172-00	METAL GLAZE	82 5% 1/8W
R199	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R403	1-216-023-00	METAL GLAZE	82 5% 1/10W
R199	1-216-295-00	METAL GLAZE	0 5% 1/10W	R404	1-216-023-00	METAL GLAZE	82 5% 1/10W
R201	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R405	1-216-023-00	METAL GLAZE	82 5% 1/10W
R202	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R406	1-216-226-00	METAL GLAZE	15K 5% 1/8W
R203	1-216-298-00	METAL GLAZE	2.2 5% 1/10W	R407	1-216-226-00	METAL GLAZE	15K 5% 1/8W
R204	1-247-741-11	CARBON	150 5% 1/2W	R408	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R205	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R409	1-216-023-00	METAL GLAZE	82 5% 1/10W
R206	1-216-035-00	METAL GLAZE	270 5% 1/10W	R411	1-216-037-00	METAL GLAZE	330 5% 1/10W
R207	1-216-298-00	METAL GLAZE	2.2 5% 1/10W	R412	1-216-037-00	METAL GLAZE	330 5% 1/10W
R303	1-216-033-00	METAL GLAZE	220 5% 1/10W	R413	1-216-037-00	METAL GLAZE	330 5% 1/10W
R304	1-216-033-00	METAL GLAZE	220 5% 1/10W	R414	1-216-041-00	METAL GLAZE	470 5% 1/10W
R305	1-216-033-00	METAL GLAZE	220 5% 1/10W	R420	1-216-182-00	METAL GLAZE	220 5% 1/8W
R306	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R421	1-216-449-11	METAL OXIDE	56 5% 2W (KV-M2151D)
R307	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R423	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R308	1-216-033-00	METAL GLAZE	220 5% 1/10W	R424	1-216-222-00	METAL GLAZE	10K 5% 1/8W
R309	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R425	1-216-033-00	METAL GLAZE	220 5% 1/10W
R310	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R426	1-216-045-00	METAL GLAZE	680 5% 1/10W
R311	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R427	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R312	1-216-174-00	METAL GLAZE	100 5% 1/8W	R428	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R313	1-216-174-00	METAL GLAZE	100 5% 1/8W	R430	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R314	1-216-025-00	METAL GLAZE	100 5% 1/10W	R431	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R315	1-216-047-00	METAL GLAZE	820 5% 1/10W	R432	1-249-403-11	CARBON	68 5% 1/4W
R316	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R433	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R317	1-216-202-00	METAL GLAZE	1.5K 5% 1/8W	R434	1-216-029-00	METAL GLAZE	150 5% 1/10W
R320	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R435	1-216-033-00	METAL GLAZE	220 5% 1/10W
R321	1-216-023-00	METAL GLAZE	82 5% 1/10W	R436	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R322	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R437	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R323	1-216-192-00	METAL GLAZE	560 5% 1/8W	R501	1-216-214-00	METAL GLAZE	4.7K 5% 1/8W
R324	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R502	1-247-743-11	CARBON	220 5% 1/2W
R325	1-249-410-11	CARBON	270 5% 1/4W	R503	1-249-437-11	CARBON	47K 5% 1/4W
R326	1-216-035-00	METAL GLAZE	270 5% 1/10W	R504	1-216-017-00	METAL GLAZE	47 5% 1/10W
R327	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R505	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R328	1-216-001-00	METAL GLAZE	10 5% 1/10W	R507	1-216-350-11	METAL OXIDE	1.2 5% 1W
R329	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R508	1-215-867-00	METAL OXIDE	470 5% 1W
R330	1-216-244-00	METAL GLAZE	82K 5% 1/8W	R510	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R331	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R511	1-216-244-00	METAL GLAZE	82K 5% 1/8W
R332	1-216-270-00	METAL GLAZE	1M 5% 1/8W	R512	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R333	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R513	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R334	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R514	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R335	1-216-001-00	METAL GLAZE	10 5% 1/10W	R515	1-216-683-11	METAL CHIP	22K 0.50% 1/10W
R336	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R516	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R337	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R517	1-216-031-00	METAL GLAZE	180 5% 1/10W
R338	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R518	1-216-033-00	METAL GLAZE	220 5% 1/10W
R341	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R519	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R342	1-216-041-00	METAL GLAZE	470 5% 1/10W	R520	1-216-258-00	METAL GLAZE	330K 5% 1/8W
R346	1-216-037-00	METAL GLAZE	330 5% 1/10W	R521	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R347	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R522	1-215-863-11	METAL OXIDE	100 5% 1W
R348	1-216-033-00	METAL GLAZE	220 5% 1/10W	R523	1-247-754-11	CARBON	1.5K 5% 1/2W
R349	1-216-029-00	METAL GLAZE	150 5% 1/10W	R524	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R350	1-216-041-00	METAL GLAZE	470 5% 1/10W	R525	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
				R527	1-215-869-11	METAL OXIDE	1K 5% 1W

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R532	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1308	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R533	1-216-133-00	METAL GLAZE	3.3M 5% 1/10W	R1309	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R534	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R1310	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R535	1-216-107-00	METAL GLAZE	270K 5% 1/10W	R1311	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R539	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1312	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R542	1-216-025-00	METAL GLAZE	100 5% 1/10W	R1313	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R543	1-249-408-11	CARBON	180 5% 1/4W	<VARIABLE RESISTOR>			
R545	1-216-286-00	METAL GLAZE	4.7M 5% 1/8W	RV001	1-238-012-11	RES. ADJ. CARBON 1K	
R548	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV331	1-238-012-11	RES. ADJ. CARBON 1K	
R601 $\Delta$	1-205-909-11	WIREWOUND	3.3 5% 10W F	RV501	1-238-016-11	RES. ADJ. CARBON 10K	
R602	1-214-923-00	CARBON	270K 5% 1/2W	RV502	1-226-703-11	RES. ADJ. METAL GLAZE 10K	
R603	1-215-903-11	METAL OXIDE	68K 5% 2W	RV503	1-238-019-11	RES. ADJ. CARBON 47K	
R604	1-247-752-11	CARBON	1K 5% 1/2W	RV504	1-238-019-11	RES. ADJ. CARBON 47K	
R606	1-212-877-11	FUSIBLE	68 5% 1/4W	RV505	1-238-009-11	RES. ADJ. CARBON 220	
R607	1-249-430-11	CARBON	12K 5% 1/4W	RV801	1-238-015-11	RES. ADJ. CARBON 4.7K	
R608	1-215-884-11	METAL OXIDE	47 5% 2W	RV802	1-238-019-11	RES. ADJ. CARBON 47K	
R609	1-207-905-00	WIREWOUND	0.27 10% 2W	<SWITCH>			
R611	1-214-915-00	CARBON	120K 5% 1/2W	S001	1-571-532-21	SWITCH, TACTIL	
R612	1-219-137-11	FUSIBLE	0.33 5% 1/4W	S002	1-571-532-21	SWITCH, TACTIL	
R613	1-217-811-11	FUSIBLE	0.47 5% 1/4W	S003	1-571-532-21	SWITCH, TACTIL	
R614	1-216-037-00	METAL GLAZE	330 5% 1/10W	S601 $\Delta$	1-571-433-12	SWITCH, PUSH (AC POWER)	
R615	1-216-013-00	METAL GLAZE	33 5% 1/10W	<SPARK GAP>			
R617	1-216-354-11	METAL OXIDE	2.7 5% 1W F	SG801	1-519-422-11	GAP, SPARK	
R620	1-216-465-11	METAL OXIDE	27K 5% 2W	<TRANSFORMER>			
R621	1-216-465-11	METAL OXIDE	27K 5% 2W	T601 $\Delta$	1-449-275-22	S.R.T	
R626 $\Delta$	1-216-238-91	METAL GLAZE	47K 5% 1/8W	T603 $\Delta$	1-421-776-21	LFT	
R627 $\Delta$	1-216-238-91	METAL GLAZE	47K 5% 1/8W	T604 $\Delta$	1-424-078-11	TRANSFORMER, TRIGGER PULSE	
R628	1-218-265-11	METAL GLAZE	8.2M 5% 1W	T605 $\Delta$	1-424-391-11	TRANSFORMER, LINE FILTER	
R801	1-217-778-11	FUSIBLE	1K 5% 1W F	T801	1-437-090-00	HDT	
R802	1-217-819-51	FUSIBLE	2.7K 5% 1/4W	T802 $\Delta$	1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)	
R803	1-216-352-11	METAL OXIDE	1.8 5% 1W F	<THERMISTOR>			
R804	1-216-013-00	METAL GLAZE	33 5% 1/10W	THP601 $\Delta$	1-808-059-32	THERMISTOR, POSITIVE	
R805	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	<TUNER>			
R806	1-216-049-00	METAL GLAZE	1K 5% 1/10W	TU101 $\Delta$	1-693-093-11	TUNER (BT-3C421)	
R807	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	<CRYSTAL>			
R808	1-216-091-00	METAL GLAZE	56K 5% 1/10W	X001	1-577-619-11	VIBRATOR, CRYSTAL	
R809	1-216-689-11	METAL GLAZE	39K 5% 1/10W	X332	1-567-131-00	OSCILLATOR, CRYSTAL	
R810	1-216-109-00	METAL GLAZE	330K 5% 1/10W	<TERMINAL>			
R811	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	YC1301	1-565-666-12	TERMINAL, S 4P	
R812	1-217-778-11	FUSIBLE	1K 5% 1W F	*****			
R813	1-212-877-11	FUSIBLE	68 5% 1/4W	*A-1638-016-A	C BOARD, COMPLETE		
R814	1-215-868-00	METAL OXIDE	680 5% 1W F		*****		
R816	1-247-883-00	CARBON	150K 5% 1/4W	*4-379-160-01	COVER (REAR LID), CV		
R817	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	*4-379-167-01	COVER (MAIN), CV		
R818	1-202-830-00	SOLID	10K 10% 1/2W				
R819	1-249-448-11	CARBON	1.2 5% 1/4W F				
R820	1-217-811-11	FUSIBLE	0.47 5% 1/4W				
R821	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W				
R822	1-216-204-00	METAL GLAZE	1.8K 5% 1/8W				
R823	1-216-077-00	METAL GLAZE	15K 5% 1/10W				
R826	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R827	1-216-081-00	METAL GLAZE	22K 5% 1/10W				
R830	1-216-192-00	METAL GLAZE	560 5% 1/8W				
R850	1-215-882-00	METAL OXIDE	22 5% 2W F				
R1301	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R1302	1-216-029-00	METAL GLAZE	150 5% 1/10W				
R1303	1-216-029-00	METAL GLAZE	150 5% 1/10W				
R1304	1-216-039-00	METAL GLAZE	390 5% 1/10W				
R1305	1-216-200-00	METAL GLAZE	1.2K 5% 1/8W				
R1306	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W				
R1307	1-216-047-00	METAL GLAZE	820 5% 1/10W				

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<CAPACITOR>				JR4	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C703	1-163-129-00	CERAMIC CHIP 330PF 5% 50V		JR6	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C704	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		JR7	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C705	1-163-191-00	CERAMIC CHIP 270PF 5% 50V		JR8	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C706	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		JR12	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C707	1-162-116-00	CERAMIC 680PF 10% 2KV		JR13	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C708	1-162-114-00	CERAMIC 0.0047MF 2KV		JR14	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C709	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		JR15	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C710	1-123-947-00	ELECT 10MF 20% 250V		JR16	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C712	1-163-129-00	CERAMIC CHIP 330PF 5% 50V		JR17	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C714	1-124-360-00	ELECT 1000MF 20% 16V		JR18	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C716	1-162-622-11	CERAMIC 330PF 10% 400V		R704	1-216-487-11	METAL OXIDE 12K 5% 3W	F
C717	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R705	1-202-824-00	SOLID 3.3K 10% 1/2W	
C718	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R706	1-216-182-00	METAL GLAZE 220 5% 1/8W	
C719	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R707	1-247-822-11	CARBON 430 5% 1/4W	
<CONNECTOR>				R708	1-249-401-11	CARBON 47 5% 1/4W	
CNC71	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		R709	1-202-844-00	SOLID 330K 10% 1/2W	
CNC72	*1-568-881-51	PIN, CONNECTOR 6P		R711	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
CNC81	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P		R712	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
CNC82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		R713	1-215-469-00	METAL 100K 1% 1/4W	
<DIODE>				R714	1-216-487-11	METAL OXIDE 12K 5% 3W	F
D702	8-719-400-18	DIODE MA152WK		R715	1-202-824-00	SOLID 3.3K 10% 1/2W	
D703	8-719-400-18	DIODE MA152WK		R716	1-216-182-00	METAL GLAZE 220 5% 1/8W	
D704	8-719-400-18	DIODE MA152WK		R717	1-249-415-11	CARBON 680 5% 1/4W	
D705	8-719-400-18	DIODE MA152WK		R718	1-202-814-11	SOLID 33K 10% 1/2W	
D706	8-719-400-18	DIODE MA152WK		R719	1-216-166-00	METAL GLAZE 47 5% 1/8W	
D707	8-719-400-18	DIODE MA152WK		R720	1-216-210-00	METAL GLAZE 3.3K 5% 1/8W	
D708	8-719-400-18	DIODE MA152WK		R721	1-202-842-11	SOLID 220K 10% 1/2W	
D709	8-719-400-18	DIODE MA152WK		R722	1-202-848-00	SOLID 680K 10% 1/2W	
D710	8-719-400-18	DIODE MA152WK		R723	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
D711	8-719-300-33	DIODE RU-3AM		R724	1-202-846-00	SOLID 470K 10% 1/2W	
D714	8-719-800-76	DIODE 1SS226		R725	1-202-838-00	SOLID 100K 10% 1/2W	
D715	8-719-800-76	DIODE 1SS226		R726	1-202-824-00	SOLID 3.3K 10% 1/2W	
D716	8-719-800-76	DIODE 1SS226		R727	1-249-409-11	CARBON 220 5% 1/4W	
<JACK>				R728	1-216-347-11	METAL OXIDE 0.68 5% 1W	F
J701	1-526-990-11	SOCKET, PICTURE TUBE		R729	1-249-416-11	CARBON 820 5% 1/4W	
<COIL>				R730	1-216-166-00	METAL GLAZE 47 5% 1/8W	
L704	1-410-878-11	INDUCTOR 33UH		R731	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
<TRANSISTOR>				R732	1-216-194-00	METAL GLAZE 680 5% 1/8W	
Q702	8-729-230-49	TRANSISTOR 2SC2712-YG		R733	1-216-194-00	METAL GLAZE 680 5% 1/8W	
Q703	8-729-906-70	TRANSISTOR BF871		R734	1-249-405-11	CARBON 100 5% 1/4W	
Q704	8-729-200-17	TRANSISTOR 2SA1091-0		R735	1-215-493-00	METAL 1M 1% 1/4W	
Q705	8-729-230-49	TRANSISTOR 2SC2712-YG		R736	1-216-487-11	METAL OXIDE 12K 5% 3W	F
Q706	8-729-906-70	TRANSISTOR BF871		R737	1-215-483-00	METAL 390K 1% 1/4W	
Q707	8-729-200-17	TRANSISTOR 2SA1091-0		R739	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
Q708	8-729-230-49	TRANSISTOR 2SC2712-YG		<VARIABLE RESISTOR>			
Q709	8-729-906-70	TRANSISTOR BF871		RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
Q710	8-729-200-17	TRANSISTOR 2SA1091-0		RV702	1-230-619-11	RES, ADJ, METAL GLAZE 110M	
<RESISTOR>				RV703	1-237-749-11	RES, ADJ, CARBON 2200	
JR1	1-216-296-00	METAL GLAZE 0 5% 1/8W		RV704	1-237-749-11	RES, ADJ, CARBON 2200	
JR2	1-216-296-00	METAL GLAZE 0 5% 1/8W		*****			
JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W		*A-1645-017-A	V BOARD, COMPLETE (KV-M2151D)		
<CAPACITOR>				*****			
C1	1-126-101-11	ELECT 100MF 20% 16V		<CAPACITOR>			
C2	1-163-038-00	CERAMIC CHIP 0.1MF 25V		C1	1-126-101-11	ELECT 100MF 20% 16V	
C3	1-124-120-11	ELECT 220MF 20% 16V		C2	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C4	1-163-077-00	CERAMIC CHIP 0.1MF 50V		C3	1-124-120-11	ELECT 220MF 20% 16V	
C5	1-124-120-11	ELECT 220MF 20% 16V		C4	1-163-077-00	CERAMIC CHIP 0.1MF 50V	

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

KV-M2150D/M2151D  
RM-826


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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C6	1-163-038-00	CERAMIC CHIP 0.1MF	25V	JR03	1-216-295-00	METAL GLAZE 0 5%	1/10W
C7	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	JR08	1-216-295-00	METAL GLAZE 0 5%	1/10W
C8	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	JR09	1-216-295-00	METAL GLAZE 0 5%	1/10W
C9	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	JR11	1-216-295-00	METAL GLAZE 0 5%	1/10W
C10	1-163-038-00	CERAMIC CHIP 0.1MF	25V	JR14	1-216-296-00	METAL GLAZE 0 5%	1/8W
C11	1-163-038-00	CERAMIC CHIP 0.1MF	25V	JR15	1-216-296-00	METAL GLAZE 0 5%	1/8W
C12	1-163-038-00	CERAMIC CHIP 0.1MF	25V	JR17	1-216-295-00	METAL GLAZE 0 5%	1/10W
C13	1-163-038-00	CERAMIC CHIP 0.1MF	25V	JR18	1-216-296-00	METAL GLAZE 0 5%	1/8W
C14	1-124-927-11	ELECT 4.7MF	20% 50V	JR19	1-216-296-00	METAL GLAZE 0 5%	1/8W
C16	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	JR20	1-216-296-00	METAL GLAZE 0 5%	1/8W
C17	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	JR21	1-216-296-00	METAL GLAZE 0 5%	1/8W
C23	1-124-927-11	ELECT 4.7MF	20% 50V	JR23	1-216-295-00	METAL GLAZE 0 5%	1/10W
C26	1-163-038-00	CERAMIC CHIP 0.1MF	25V	JR24	1-216-296-00	METAL GLAZE 0 5%	1/8W
C27	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	JR25	1-216-296-00	METAL GLAZE 0 5%	1/8W
C28	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	JR26	1-216-296-00	METAL GLAZE 0 5%	1/8W
C29	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	JR202	1-216-295-00	METAL GLAZE 0 5%	1/10W
C32	1-163-038-00	CERAMIC CHIP 0.1MF	25V	JR203	1-216-295-00	METAL GLAZE 0 5%	1/10W
C33	1-163-038-00	CERAMIC CHIP 0.1MF	25V	JR221	1-216-295-00	METAL GLAZE 0 5%	1/10W
<CONNECTOR>				JR222	1-216-295-00	METAL GLAZE 0 5%	1/10W
CNV1	*1-565-393-11	CONNECTOR, BOARD TO BOARD		R1	1-218-326-11	METAL GLAZE 470 5%	1/2W
CNV2	*1-565-393-11	CONNECTOR, BOARD TO BOARD		R2	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
<DIODE>				R3	1-216-049-00	METAL GLAZE 1K 5%	1/10W
D1	8-719-105-91	DIODE RD5.6M-B2		R4	1-216-025-00	METAL GLAZE 100 5%	1/10W
D3	8-719-914-44	DIODE DAP202K		R5	1-216-047-00	METAL GLAZE 820 5%	1/10W
D5	8-719-914-44	DIODE DAP202K		R6	1-216-001-00	METAL GLAZE 10 5%	1/10W
D6	8-719-400-18	DIODE MA152WK		R7	1-216-083-00	METAL GLAZE 27K 5%	1/10W
D9	8-719-106-17	DIODE RD6.8M-R2		R8	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
<IC>				R9	1-216-308-00	METAL GLAZE 4.7 5%	1/10W
IC2	8-759-045-54	IC SAA5246P/E/M4A		R10	1-218-325-11	METAL GLAZE 120 5%	1/4W
IC3	8-759-510-49	IC FCB61C65L-70P		R11	1-218-325-11	METAL GLAZE 120 5%	1/4W
<COIL>				R12	1-218-325-11	METAL GLAZE 120 5%	1/4W
L1	1-408-403-00	INDUCTOR 3.3UH		R13	1-216-025-00	METAL GLAZE 100 5%	1/10W
L2	1-408-407-00	INDUCTOR 6.8UH		R14	1-216-001-00	METAL GLAZE 10 5%	1/10W
L3	1-408-407-00	INDUCTOR 6.8UH		R15	1-216-013-00	METAL GLAZE 33 5%	1/10W
L4	1-408-407-00	INDUCTOR 6.8UH		R16	1-216-013-00	METAL GLAZE 33 5%	1/10W
<IC LINK>				R17	1-216-013-00	METAL GLAZE 33 5%	1/10W
PS1	$\Delta$ 1-532-679-91	LINK, IC (ICP-N15) 0.6A		R18	1-216-025-00	METAL GLAZE 100 5%	1/10W
<TRANSISTOR>				R19	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q1	8-729-900-53	TRANSISTOR DTC114EK		R21	1-216-013-00	METAL GLAZE 33 5%	1/10W
Q2	8-729-920-92	TRANSISTOR 2SD2096-EF		R22	1-216-168-00	METAL GLAZE 56 5%	1/8W
Q3	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R23	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R40	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q5	8-729-807-87	TRANSISTOR 2SB1295-UL6		R42	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q6	8-729-807-87	TRANSISTOR 2SB1295-UL6		R49	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q7	8-729-807-87	TRANSISTOR 2SB1295-UL6		R50	1-216-296-00	METAL GLAZE 0 5%	1/8W
Q9	8-729-901-04	TRANSISTOR DTA114EK		<VARIABLE RESISTOR>			
Q10	8-729-901-01	TRANSISTOR DTC144EK		RV1	1-238-012-11	RES, ADJ, CARBON 1K	
Q11	8-729-901-01	TRANSISTOR DTC144EK		<CRYSTAL>			
<RESISTOR>				X1	1-579-266-31	CRYSTAL VIBRATOR	
JR01	1-216-295-00	METAL GLAZE 0 5%	1/10W	*****			
JR02	1-216-295-00	METAL GLAZE 0 5%	1/10W	*1-638-167-11 J1 BOARD			
				*****			
				<CAPACITOR>			
				C2200	1-163-031-11	CERAMIC CHIP 0.01MF	50V



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REF.NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>			
	CN2001	*1-568-878-51 PIN, CONNECTOR 3P	
<JACK>			
	J2201	1-562-837-11 JACK	
<COIL>			
	L2201	1-408-409-00 INDUCTOR 10UH	
*****			
MISCELLANEOUS			
*****			
		1-426-383-11 COIL, DEMAGNETIZATION	
		1-451-295-11 DEFLECTION YOKE (Y21PFA2)	
		1-452-032-00 MAGNET, DISK; 10MM $\phi$	
		1-452-094-00 MAGNET, ROTABLE DISK; 15MM $\phi$	
		1-452-277-00 MAGNET, BMC	
		1-503-258-21 SPEAKER	
		1-590-501-11 CORD, POWER (WITH NOISE FILTER)	
	V901	 8-738-758-05 PICTURE TUBE (A51JXH61X)	
*****			
ACCESSORIES AND PACKING MATERIALS			
*****			
	*4-035-765-11	CUSHION (UPPER) (ASSY)	
	*4-035-766-11	CUSHION (LOWER) (ASSY)	
	*4-200-680-02	INDIVIDUAL CARTON	
	4-200-871-11	MANUAL, INSTRUCTION (GERMAN/ENGLISH/ FRENCH/ITALIAN/DUTCH/SWEDISH)	
	*4-380-340-01	BAG, PROTECTION	
REMOTE COMMANDER			
	1-693-124-11	REMOTE COMMANDER (RM-826)	
	4-031-670-01	COVER, POCKET (FOR RM-826)	